THE
University of Vermont
MEDICAL CENTER

Via Regular Mail & E-mail

September 28, 2018

Donna Jerry, Senior Health Policy Analyst
Green Mountain Care Board
144 State Street
Montpelier, Vermont 05620

Re: Docket No. GMCB-023-18con, Replacement of Interventional Radiology Suite 22, McClure 1, Room 1184 and related renovations.
Project Cost: $2,144,622

Dear Donna:

This letter responds to the questions from your letter dated August 24, 2018. The questions are bolded followed by our responses in un-bolded font.

RESPONSES

1. **For fiscal year (FY) 2017, provide a table showing (1) the number of patients, (2) number of interventional radiology (IR) procedures performed, (3) capacity, and (4) percent of capacity used, for IR Suite 22 and each of the three other IR suites. Identify the assumptions for establishing the capacity for each IR suite.**

   RESPONSE:

FY17	Number of Patients	Number of IR Procedures	Capacity	% of Capacity used
IR Suite 22	1,080	2,836	1040 patients/year	103%
IR Suite 23	1,122	2,947	1040 patients/year	107%
IR Suite 24	1,063	2,791	1040 patients/year	102%
IR Suite 25 (CT Room)	853	2,238	1040 patients/year	82%
IR Suite 26 (C-arm Room)	1,274	3,344	1040 patients/year	122%
Total	**5,392**	**14,156**		

UVMMC's interventional radiology patient and procedure volumes are inclusive of five suites. Suites 22, 23, and 24 are interventional radiology rooms with technologically advanced fixed imaging equipment, and are utilized for more complex cases. Suite 25 is equipped with a computed tomography (CT) scanner, and is utilized selectively for appropriate procedures as determined by a patient's clinical needs. Suite 26 is equipped with standard imaging equipment (a C-arm) and is utilized for less technical procedures such as tube and PICC line placements.

The estimated patient capacity for each of the IR suites assumes that each room can accommodate two patients in the morning and two patients in the afternoon for a total of four patients per suite per day, or 1,040 patients per year. The number of patients seen annually is generally evenly distributed between IR suites 22, 23 and 24. Patient case load, procedure type, surgeon mix, and management of staff radiation exposure are all factors that influence what kinds of cases will be performed in each suite.

2. **Confirm that the three remaining IR suites will be sufficient to accommodate demand for IR procedures during the ten-week renovation and installation period.**

   RESPONSE: UVMMC strategically planned for the IR suite equipment replacement and renovations to occur sometime after the busier summer months, when patient and procedure volumes typically decline. In addition, the Radiology department plans to shift clinically appropriate patients to other available IR suites and fluoroscopy rooms, and to extend hours as needed to meet patient demand.

3. **Explain why the volume of IR procedures is projected to decrease from 14,156 in FY 2017 to 12,576 in budget FY 2018 and proposed FYs 2019, 2020 and 2021.**

   RESPONSE: There are several factors influencing the FY 2017 spike in procedure volumes and the decreased volume projections for FY 2018 forward, but the major factor is the number and specialty of interventional radiologists. At the end of FY 2015, UVMMC lost one of its interventional radiologists unexpectedly and was not able to fill that physician vacancy right away, resulting in decreased volumes and a four-week backlog of cases throughout FY 2016. Some patients also had to travel outside of our service area to receive needed interventional radiology care.

   A new radiologist was hired in FY 2017, which resulted in an immediate increase in patient and procedure volumes as the department worked overtime to clear the backlog of cases. However, at the end of FY 2017, UVMMC stopped performing image-guided pain injections in the IR suites and shifted these procedures to the Pain Clinic for improved patient convenience. The shift of these cases to the Pain Clinic resulted in a permanent reduction in post FY 2017 volumes.

4. **Provide an updated vendor quote that extends through the anticipated purchase date.**

RESPONSE: Please see Exhibit 1, attached. The vendor has extended the purchase offer through December 31, 2018.

5. **Resubmit all financial tables using Adaptive Insights, inclusive of all departments and service areas and reflecting 2017 actual, 2018 budget and projections, 2019 budget, and proposed years 1, 2, and 3. Please contact Lori Perry for specific guidance before completing the required tables.**

   RESPONSE: All CON financial tables associated with this Project have been uploaded to the State's Adaptive Insights portal effective September 7, 2018.

We hope that this letter answers any remaining questions that you have. If further information is needed, please do not hesitate to contact me.

Very truly yours,

Steven Klein, Esq.
Director of Legal Affairs
& Assistant General Counsel

Enclosures

INDEX OF EXHIBITS

STATE OF VERMONT
GREEN MOUNTAIN CARE BOARD

In re:	UVM Medical Center Replacement of Interventional Radiology Suite Capital Expenditure: $2.398 million	) Docket No. GMCB-010-16con)))

STEVEN J. KLEIN, Esq., being duly sworn, states on oath as follows:

1. My name is Steven J. Klein, Esq. I am Director of Legal Affairs and Assistant General Counsel at The University of Vermont Medical Center Inc. I have reviewed the foregoing letter in response to the Green Mountain Care Board's questions from August 24, 2018.

2. Based on my personal knowledge, after diligent inquiry, the information contained in the foregoing is true, accurate and complete, does not contain any untrue statement of a material fact, and does not omit to state a material fact necessary to make the statement made therein not misleading, except as specifically noted herein.

3. My personal knowledge of the truth, accuracy and completeness of the information contained in the foregoing letter is based upon either my actual knowledge of the subject information or, where identified below, upon information reasonably believed by me to be reliable and provided to me by the individuals identified below who have certified that the information they have provided is true, accurate and complete, does not contain any untrue statement of a material fact, and does not omit to state a material fact necessary to make the statement made therein not misleading.

4. The following certifying individuals have provided information or documents to me in connection with the foregoing letter, and each such individual has certified, based on his or her actual knowledge of the subject information or, where specifically identified in such certification, based on information reasonably believed by the certifying individual to be reliable, that the information or documents they have provided are true, accurate and complete, do not contain any untrue statement of a material fact, and do not omit to state a material fact necessary to make the statement made therein not misleading:

   Paula Gonyea, Network Regional Director of Radiology
   Joanna Lemieux, Strategic Planning Consultant
   Fiona Daigle, Finance Manager, Hospital Business Analysis

5. In the event that the information contained in the foregoing letter becomes untrue, inaccurate or incomplete in any material respect, I acknowledge my obligation to notify the Green Mountain Care Board, and to supplement the information/document subject to verification as soon as I know, or reasonably should know, that the information or document has become untrue, inaccurate or incomplete in any material respect.

STEVEN J. KLEIN, Esq.

On September 28 2018, STEVEN J. KLEIN, Esq., appeared before me and swore to the truth, accuracy and completeness of the foregoing.

Notary public

My commission expires on 2/10/19

PHILIPS HEALTHCARE
A division of Philips North America LLC
22100 Bothell Everett Highway
P.O. Box 3003
Bothell, Washington 98041-3003

PHILIPS

Quotation #: 1-1NSV3MX	**Rev:** 10	**Effective From:** 31-Aug-18	**To:** 31-Dec-18

Presented To:

UNIVERSITY OF VERMONT MEDICAL CENTER
111 COLCHESTER AVE
BURLINGTON, VT 05401-1416

Tel:

Alternate Address:

Presented By:

David Delworth
Account Manager
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Date Printed: 31-Aug-18

Submit Orders To:

22100 BOTHELL EVERETT HWY
BOTHELL WA 98021

Tel:

Fax:(425) 458-0390

IMPORTANT NOTICE: Health care providers are reminded that if the transactions herein include or involve a loan or discount (including a rebate or other price reduction), they must fully and accurately report such loan or discount on cost reports or other applicable reports or claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, such as may be required by state or federal law, including but not limited to 42 CFR 1001.952(h).

Quote Solution Summary

Line #	Product	Qty	Price
	100237 Azurion 7 M20	1	$1,335,244.86
		Equipment Total:	$1,335,244.86

Solution Summary Detail

Product	Qty	Each	Monthly	Price
100237 Azurion 7 M20	1	$1,335,244.86		$1,335,244.86

Buying Group: **UNIVERSITY OF VERMONT HEALTH NETWORK** **Contract #:** **SBA11583M and LSP000030**

Addt'l Terms: **The specific Contract # referenced above represents the Novation or Vizient agreement with Philips containing discounts, fees and any specific terms and conditions, including the Vendor's Terms and Conditions of Sale (subject to such Contract), applicable to the purchase of any Product identified as part of this quoted Solution.**

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Payment Terms: 0% Down, 80% Upon Delivery, 20% Due When the Product is Available for First Patient Use, Net due 30 days from date of invoice

Quote Summary

100237 Azurion 7 M20

Qty	Product
1	NNAE556 Azurion 7 C20
2	FCV0824 video WCB on rear side 1st MCS
8	FCV0588 Isolated Wall Connection Box
1	NCVD058 FlexSpot
1	NCVA099 Ratchet compressor
1	FCV0812 live/ref slaving for ER
1	NCVD069 ClarityIQ.
1	NCVC466 VesselNavigation Complete
1	NCVD059 FlexSpot secondary monitor
1	NCVA783 table pivot option
1	NCVA695 FD Rotational Angio
1	NCVC199 Wireless footswitch: mono-plane version
1	NCVD064 extension to FlexVision Pro
1	NCVD072 SmartMask Monoplane
1	NCVD138 table tilt option
1	NCVD097 DVD writer
1	NCVD081 Touch Screen Module Pro
1	NCVD078 FD Dual Fluoro monoplane
1	NCVD030 FlexVision XL HD
1	NCVD177 IW Hardware (FlexSpot)
1	NCVD128 storage extension
1	NCVA258 CO2 VIEW TRACE
1	NCVC325 OncoSuite complete
1	FCV0817 Accessory rail + cable ext.kit
1	NCVC564 XperCT Open and Closed
1	980406041009 Rad Shield w/ Arm (Contoured) 61X76
1	989801220273 Ceiling Track w/Column & Handle Ext
1	989801225022 Medrad Mark 7 Arterion Pedestal
1	989801256033 iXR Additional Training 24 Hours OnSite
1	989801220380 Full Load Remote UPS
1	NNAE497 Clinical Education Package for OncoSuite Complete
1	NNAE504 Clinical Education Program for Vessel Navigation
1	SP019 Trade in Allowance

Quote Summary

100237 Azurion 7 M20

Qty	Product

100237 Azurion 7 M20

System Type: New
Freight Terms: FOB Destination
Warranty Terms: Part numbers beginning with two (2) asterisks (**) are covered by a System 12 Months Warranty. All other part numbers are third (3rd) party items.

Special Notations: Contingencies must be removed 120 days before scheduled shipment to assure delivery on specified date.
Any rigging costs are the responsibility of the Purchaser.

Additional Terms: The specific Contract # referenced above represents the Novation or Vizient agreement with Philips containing discounts, fees and any specific terms and conditions, including the Vendor's Terms and Conditions of Sale (subject to such

Line #	Part #	Description	Qty	Each	Price
1	**NNAE556	Azurion 7 C20	1	$656,379.37	$656,379.37

Advanced solution for vascular, non-vascular, embolization to interventional oncology procedures
Key benefits

- Optimized utilization of your lab by procedure based workflow
- Superb image quality to evaluate small details and vessels with clarity.
- Intuitive user interaction delivering an easy to use, easy to learn system

Changing interventions
With our Live Image Guidance we aim to remove barriers to safer, effective and reproducible treatments, delivering clinical value where it's needed most - at the point of patient treatment. Intelligent and intuitive integration of live imaging, patient information, and procedure-based applications optimize real time therapy guidance.
The 7 series C20 ceiling system is designed to enhance all the different procedures your interventional lab faces, from vascular, non-vascular and embolization to interventional oncology procedures. This future proof solution is designed around a single, standardized hardware and software platform that can be upgraded and expanded as new needs arise or requirements change. Its architecture is made to easily integrate with third party applications and devices. A new workflow approach aims to support interventional teams in carrying out procedures for their patients, consistently and efficiently with great ease of use.

The Philips Azurion 7 C20 uses a range of Procedure Cards to help optimize and standardize system set-up for your cases, from routine to mixed procedures.
Procedure Cards can increase the consistency of exams by offering presets (e.g. most-frequently used, default protocols and user-specified settings) on procedure-, physician- or departmental level. In addition, hospital checklists and/or protocols can be uploaded into the Procedure Cards to help safeguard the consistency of interventional procedures and help to minimize preparation errors.
The Philips Azurion 7 C20 interventional X-ray suite has been specifically designed to save time by enabling the interventional team to work on all activities in the exam room - and at one or more work spots in the control room at the same time - without interrupting each other. This leads to higher throughput and faster exam turnover and contributes to quality of care.

To improve dose management, Philips Zero dose positioning enables you to move the stand and table to the region of interest shown on the last clinical image hold before a new acquisition is started, without any radiation.
Specifications
The Philips Azurion series contain a number of features to support a flexible and patient centric procedural workflow.
The Philips Azurion series (within the limits of the used Operating Room table) are intended for use to perform:

- Image guidance in diagnostic, interventional and minimally invasive surgery procedures for the following clinical application areas: vascular, non-vascular, cardiovascular and neuro procedures.

- Cardiac imaging applications including diagnostics, interventional and minimally invasive surgery procedures.

The Philips Azurion 7 C20 system comprises five functional building blocks:

1. Geometry
2. X-ray Generation
3. Image Detection
4. User Interface
5. Viewing

Each functional building block is explained in further detail including accessories.

1. Geometry

A. 7 C20 stand

The Philips Azurion 7 C20 stand is a stable assembly of a C-arm and a ceiling suspended L-arm. The X-ray tube and the flat detector are integrated into the C-arm. This provides a compact assembly completely free from the floor, with maximal positioning flexibility and unrestricted access to the patient. The robust design ensures excellent reproducibility of projections, needed in for example subtracted imaging procedures and advanced 3D imaging. The L-arm can be rotated and moved in longitudinal direction allowing a three-sided patient approach and total body coverage.

- L-arm rotation around the patient table: +90, 0, -90 degrees.
- L-arm longitudinal movement: 300 cm

This movement features auto-stops at the parking position, cardio/neuro position and lower peripheral position.

B. Patient Support

The patient support provides very light manual float movement, even for heavy patients, thanks to the mono-bearing technology. The long flat carbon fiber tabletop provides ample space to place e.g. catheters and endovascular tools. On customer request, the standard table top can be replaced by a table top for neuro procedures. This table top has a smaller width at the head end for better imaging results in neuro procedures.

- Table top length of 319 cm, width 50 cm (neuro table top is 45cm at head end)
- Metal-free cantilever 125 cm
- Floating table-top movement of 120 cm longitudinal and +/- 18 cm transversal
- Motorized height adjustment range is 74 -102 cm cm for a table without swivel nor cradle/tilt.
- Maximum cantilever of 223 cm , for full patient coverage
- Table tilt +17 /-17 degrees (optional)
- Table cradle +15 / -15 degrees (optional)
- Pivot range 270 degrees (-90 to +180 or +90 to -180 degrees), table can be locked at any position and has stops at 0, +/-13, +/- 90 and +/- 180 (optional)
- Table swivel, 78.2 cm longitudinal displacement, motorized (optional).
- Maximum load: 275 kg (up to 250 kg patient weight plus 25kg accessories or 225kg patient weight plus 50kg accessories) plus 500 N for CPR in any longitudinal position of the table top

The UIM modules are not accessories; make consistent with "AD7 accessories Cardiac"

The Philips Azurion system can be fitted with a comprehensive set of accessories to help you perform your procedures as conveniently as possible. Included are

- 1 cerebral filter

- 3 rail accessory clamps
- 1 drip stand
- 1 Set of Elbow Supports
- 1 Set of patient Straps
- 1 Arm Support Board
- 1 Head Support
- 1 Mattress
  The mattress is a slow recovery foam mattress with a density of 58 kg/m3. The mattress has a thickness of 7 cm and adapts to the body shape of the patient. It makes the pressure being divided equally and it recovers when the patient is taken off the mattress. The light yellow cover is easy to clean. Patients are more relaxed due to the comfort of this mattress.
- Table-mounted Radiation Shield
- Anti-fatigue mat with Philips logo

2. X-ray Generation
A. Generator

The 7 C20 system comprises an integrated, micro-processor controlled Certeray generator based on high frequency converter technique. The user interface control of this X-ray Generator is incorporated in the touch screen module, review module, and the on-screen displays. The Certeray generator comprises:

- X-ray generator 100 kW
- Voltage range is 40 - 125 kV
- Maximum current 1000 mA at 100 kV
- Maximum continuous power for fluoroscopy: 1.5 kW

Program selection:

- Pulsed X-ray up to 3.75 , 7.5 , 15 , 30, 60(optional) frames/s for digital dynamic exposures
- Frame rate extension to 30 frames per second.

Designed to enhance visualization of complex and pediatric interventions
Frame rate extension to 30Fr/sec increases the system acquisition speed up to 30 frames per second for cardio studies requiring high speed imaging.
Specifications

The frame rate extension increases the acquisition speed to 15fps and 30fps with a 1024x1024 matrix.

- Pulsed X-ray for pulsed fluoroscopy (3.75 , 7.5 , 15 , 25, 30 frames/s).
- Minimum exposure time of 1 ms
- ECG triggered acquisition: allows acquiring one exposure for each QRS peak with selectable delay time
- Automatic kV and mA control for excellent image quality prior to run to save dose
- X-ray tube load incorporated in the Certeray generator
- Pulsed X-ray for (subtracted) acquisition up to 12 frames/s for vascular applications

B. X-ray tube
The 7 C20 system has the Maximus ROTALIX Ceramic grid switch tube assembly MRC200+ GS 0407 integrated.

The MRC 200+ GS 04 07 tube assembly and cooling unit CU 3101 for cardiovascular systems comprises:

- 0.4/0.7 mm nominal focal spot values maximal 30 and 65 kW short time load
- Grid switching at pulsed fluoroscopy and low load exposure (to eliminate soft radiation and improve image quality)
- Continuous loadability: 3400 W (at 21 degrees C room temperature) / 4000 W (= Max assembly continuous heat dissipation)
- Application of SpectraBeam dose management
- Tube housing is oil cooled with thermal safety switch
- Maximum anode cooling rate of 1820 kHU/min
- Anode heat storage capacity of 6.4 [MHUeff]

C. System intrinsic

- Fully digital imaging chain in maximizing the utilization and technology of the x-ray generator, x-ray tube, flat detector and image processing.
- Customizable EPX protocols to each application according to user preferences for different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, adaptive harmonization)
- Built-in SpectraBeam filtering of low energy radiation to improve image quality and dose efficiency with MRC200+ X-ray tubes.
- Pre-filters of 0.2, 0.5 and 1.0 mm CU equivalent
- Automatic cardiac wedge positioning
- X-ray depth collimator with single semi-transparent wedge filter with manual and automatic positioning.
- Xper Beam Shaping, which means that both shutters and wedges can be positioned on the Last image Hold without the need for X-ray radiation.
- Xper Fluoro Storage, a grab function allows storage and archiving of both a fluoro image or the last 20 seconds of fluoroscopy run. These images or runs can be archived and reviewed as a regular run.

D. User selections

- removable anti-scatter grid to lower x-ray dose for pediatrics (grid ratio 13:1)
- ECG triggered acquisition, offering the possibility to acquire images at the same phase of the heart cycle. This applies to the low dose fluoro and exposure program for EP applications. This allows patient dose reduction by lowering the pulse rate to 1 pulse per heart and let the physician still focus on relevant items
- three programmable fluoroscopy modes can be selected from the control module. Each mode has a different composition of dose rate, pulse speed, filter setting, and image processing (noise reduction, adaptive contour enhancement, and adaptive harmonization)

Roadmap Pro can be selected from the control module.
In the first Roadmap phase a vessel map is created by live fluoroscopy or by selecting an exposure image (SmartMask) with a vessel map which, in the second Roadmap phase, is superimposed with subtracted live fluoroscopy.

Roadmap Pro features Smart Settings in special clinical modes that are optimized to visualize special materials such as coils and glue.

- Acquisition runs can be done without losing the vessel map of Roadmap Pro.
- Live processing of the vessel map, the device map and the landmark map can be done on the touch screen module.
- Field of View (FoV) can be altered during the second phase.
- Xres for vascular procedures is standard part of Roadmap Pro.

In Roadmap Pro "Automatic Motion Compensation" (AMC) is added to the roadmap functionality. During roadmap, small movements of the patient can lead to subtraction artifacts. These artifacts might conceal important clinical information. "Automatic Motion Compensation" compensates for rigid, uniform (skeletal/table) translations and is therefore very effective in interventional (neurology) applications where subtraction imaging is applied. Disclaimer: AMC only corrects movement artifacts in 2 dimensions. 3 dimensional movements like swallowing or rotation of the head cannot be corrected.

E. User dose awareness

DoseWise program: Philips DoseWise program is a set of techniques, programs and practices built into the X-ray system that ensures excellent image quality during each interventional application, while at the same time reducing x-ray dose at every opportunity. The DoseWise comprises of three building blocks to help reduce x-ray dose without compromising diagnostic quality: system intrinsic, user selection and awareness.

On-system monitor display provides and displays body zone specific Air Kerma data (10 zones for cardiac applications) in numeric and graphical bars.

- Graph displays the accumulated Air Kerma dose for the particular body zone of the actual projection
- When the accumulated Air Kerma dose of the particular body zone reaches the critical skin dose level of 2 Gy, it will be indicated on the display and made visible to the x-ray operator.

Radiation Dose Structured Report
Collection of dose relevant parameters and settings and export to a DICOM database (e.g. PACS) (dose information is sent in MPPS message not as Radiation Dose Structure report), according IEC60601-2-43, 2nd Edition. The reported data can be used for, for example:

- Quality improvement: evaluating trends in X-ray dose performance per facility, system and operator. RDSR enables analysis of average dose levels & variance for routinely performed exams and procedures. Also, typical system usage can be extracted from the data, helping to identify root causes behind deviations and measures to improve.
- Analysis of individual patient cases: using dose levels and system usage per procedure
- Alerting for high dose cases, timely identifying patients at risk or deterministic effects, for proper follow-up.

Secondary Capture Dose Report
The Secondary Capture Dose Report function allows the user to save & transfer, manually or automatically, a patient Dose Report to PACS in DICOM secondary capture format.
The dose report will be stored in the related patient image folder.

3. Image Detection

The system has a 20 inch flat panel image detector. This detector can be rotated over 90 degrees from portrait to landscape and vice versa.

The image chain with the 20 inch flat panel image detector comprises the following:

- A 30 cm by 40 cm (20 in.) diagonal 8 mode Dynamic Flat Detector subsystem for fluoroscopy and cine-fluorography.
- 8 modes 30*38/30*30/26*26/22*22/19*19/16*16/13.5*13.5/11*11 cm, Dynamic Flat Detector
- The outer detector physical housing is 36 x 47.2 cm
- The digital output of the Flat detector is 1904*2586 pixels at 16 bit depth.
- The pixel pitch is 154 micron by 154 micron
- The DQE(0) is >77% providing high conversion of X-ray into a digital image, while maintaining a high MTF.

Philips Azurion offers a storage capacity of (optionally extendable) of 50,000 images at matrix size of 1024 x 1024, in 8 or 10 bit depth. With a matrix size of 2048 x 2048 this is 12,500 images. Maximum number of examinations is 999, with no limit to the maximum number of images per examination.

Xres is a multi-resolution spatial temporal noise reduction and edge enhancement filter for interventional applications. Xres exploits the full benefits of dynamic digital flat detector imaging to enhance sharpness and contrast and has been designed to reduce noise in fluoroscopy and exposure runs. The settings for Xres Cardio can be customized to improve image quality. Xres is a Philips unique image processing algorithm developed at Philips Research for medical applications. Xres is used with Philips MR and US scanners next to Philips Azurion systems.

4. User Interface

User Interface in Examination Room

The User Interface comprises a variety of User Interface modules in the Examination Room. There is the On-Screen Display, the touch screen module, Viewpad and the control modules.

The On-Screen Display is positioned on the left side of the live/ref monitor. The following system information is displayed:

- X-ray indicator
- X-ray tube temperature condition
- Gantry position in rotation and angulation
- Source Image Distance
- Table height
- Table top tilt and cradle angle, if applicable
- Detector field size display
- General System messages
- Selected Frame speed
- Fluoroscopy mode
- Integrated fluoroscopy time
- Skin Dose: dose rate during X-ray, cumulated dose when no X-ray
- Dose Area Product: dose rate during X-ray, cumulated dose when no X-ray
- Graphical bars for Body Zone specific dose-rate and accumulated skin dose levels, related to the 2 Gy level (for cardiac applications
- Stopwatch

The pan handle is an extension of the control possibilities for floating movements of the table top in cardio vascular and neuro systems

Key benefits

- Flexible positioning during cardio and neuro procedures
- Flexible positioning during cardio and neuro procedures

To allow more flexible positioning during cardio and neuro procedures, the pan handle option can be used to perform floating table movements. The pan handle provides a solid grip of the tabletop and can release and apply the tabletop brakes. It can be attached anywhere along the tabletop and accessory rails without affecting the floating range.

Specifications

Pan handle with cable and connector
Table-top attachment clamp
Accessory-rail attachment clamp
Touch screen module

The touch screen module is provided for use at either the tableside or in the control room. Optionally, it is possible to connect in parallel up to three touch screen modules on the system. The touch screen module has a touch screen, which can be operated when covered with sterile covers. The touch screen module allows control of (depending on configuration):

- 3rd party equipment (e.g. CX50, Interventional Tools, EchoNavigator, DoseAware)
- Monitor layout (FlexVision, switchable viewing)
- X-Ray settings (Collimation, Projections, Table, Series and Processing)
- Quantitative Analysis (optional) User can only start QA from the touch screen module. No controls like coronary analysis, left ventricular and vessel analysis can be performed on the touch screen module.
  - Operation of Xcelera, XperIM and IntelliSpace Portal viewing (optional)
- Operation of CX50 Ultrasound (optional)

2nd Touch Screen Module

Key Benefits

- Control system operations with a second touch screen module

Tablet-like touch screen control

During an intervention flexible control of applications and system operations can support fast decisions and communication with team members. The touch screen module provides fast, tablet-like touch response to control system operations. Up to three touch screen modules can be connected to the X-ray system: on the table, on the pedestal and in the control room.

Specifications

The second touch screen module is similar to the standard touch screen module and provides touch screen control of displayed functionality. The following functions can be made available providing the relevant commercial options have been selected:

- Acquisition settings
- Image processing controls
- Channel selection for MultiVision
- Automatic position control (optional)
- Quantitative Analysis controls (optional)
- Xcelera and IntelliSpace Portal viewing (optional)
- Interventional tool controls (optional)
- 3D-RA, Dynamic 3D Roadmap (optional)
- StentBoost, 3D-CA (optional)
- XperCT, XperGuide (optional)
- XIM physio monitoring controls (optional)

Connectivity:

A maximum of 3 touch screen modules can be connected to the X-ray system:

- One touch screen module on the table
- One touch screen module in the Control Room
- One touch screen module on the pedestal

Viewpad
The Viewpad contains the preprogrammed function settings. The system is provided with two Viewpads. The following functions are provided:

- Run and image selection
- File and run cycle
- File overview
- Store to Reference image file
- Copy image to photo file
- Digital (fixed) zoom and panning
- Recall reference images, which means switching control of Viewpad function from life to reference monitor
- Laser pointer, intended to point at regions of interest on the image monitors
- LED indication of laser pointer on/off and battery low
- Subtraction on/off
- Remasking
- Landmarking
- Access flat detector rotation

User Interface in Control Room
The control room comprises a review module, data color monitor and review monitor. The data and review functions are controlled by a single keyboard and mouse. The review module offers the basic functions for review. The most prominent functions can be controlled by the push of a button. The review module comprises the following functionality:

- Power on/off
- File and run cycle
- File, Run, and Image stepping

- Run and file overview
- Reset fluoroscopy timer
- Enable/disable X-ray
- Geo disable

Acquisition monitor. A standard keyboard and mouse control the user interface. The acquisition monitor is intended to follow live case in the ER. System information is displayed on the bottom of the monitor:

- Stopwatch and Time
- System guidance information
- Dose Area Product (DAP) and Skin Dose, as dose rate during X-ray and cumulative dose at no X-ray
- Frame speed settings, fluoroscopy mode, and accumulated Fluoroscopy time
- Exposure and fluoroscopy settings as Voltage (kV), Current (mA) and time (ms)
- Geometry information as rotation, angulation, and SID

The acquisition monitor is designed for standard workflow based on scheduling, preparation, acquisition, review, report, and archive.

Scheduling
In the scheduling page it is possible to add new patients (either querying from RIS/CIS or by creating patient locally). The patients can be listed and selected per date, physician, and intervention type. Previous DICOM patient studies can be uploaded with the DICOM Query Retrieve function in the Philips Azurion system. Patient management protocols are flexible and allow
for multiple studies to be selected under one patient identification number. This means that new studies can be appended to an earlier patient file. Furthermore, each study can contain multiple examinations to allow for split administrative purposes. Each examination contains multiple files, like acquisition file, reference file, and QA results file.

Procedure Cards
Procedure Cards provide the information of room and patient preparation for each individual physician. Procedure Cards are customizable per setting and allow each physician to provide their own room protocols. Procedure Cards is intended to make hard copies of the protocol instructions redundant.

Acquisition
The acquisition page contains information on the currently selected patient.

Reviewing
The review page allows for reviewing of patients:

- Previous examination cases
- Review of other DICOM XA or DICOM SC studies.

Quantitative Vascular Analysis

Key benefits

- Allows quantitative assessment of different size vessels such as aortic and peripheral
- Aids confident decision making for device selection, approach angles and follow-up
- Designed for efficiency with single click functions and fast results

Easily obtain objective assessment of aortic and peripheral vasculature to support decision making and allow quantitative assessment of vasculature during vascular interventions, the 2D quantitative vascular analysis option supports quantification such as aortic and peripheral artery dimensions of about 5 to 50 mm from 2D angiographic images. With one click, the relevant segment is detected and a visualization of the obstruction, healthy vessel, reference diameter, stenosis diameter and plaque area is created.
Specifications:

- Automated vessel segmentation
- Diameter measurement along selected segment
- Automated obstruction analysis
- Stenosis diameter, stenosis length
- % stenosis diameter, % stenosis area
- Automated and manual calibration routines
- Store result page

Analysis of the targeted vessel segment has been simplified with the single click function. Position the mouse on or close to the stenotic area and click once to detect the relevant segment. The visualization shows the obstruction, healthy vessel, reference diameter, stenosis diameter and plaque area.

Archiving
Clinical studies can be archived to a CD/DVD, USB or a PACS. The archive process can be completely automated and customized with settings. Parameters like multiple destinations, archive formats can be selected to the individual needs and wishes for programming under the settings.

With Philips Azurion the control room comprises of an acquisition monitor
and a review monitor. The review monitor is a 24 inch color TFT-LCD medical grade monitor.
The Graphical User Interface on the Review monitor has the following features and possibilities:

- Step through file, run, or images
- File, and run overview
- Contrast, brightness, and edge enhancement settings
- Flagging of runs or images for transfer
- Applying text annotation in images
- DICOM printing if available
- Executing Quantitative Analysis Packages if available
- Subtraction functionality if available

This system is delivered with printed instructions for use and/or electronic instructions for use, as well as a quick start leaflet. A printed paper instructions for use can also be ordered at no additional cost.

5. Viewing
A. Viewing in Examination room

100237 Azurion 7 M20

Line #	Part #	Description	Qty	Each	Price

Philips Azurion systems come with one 27 inch high brightness color medical grade LCD monitor for clinical image display in the Examination room. This LCD monitor is intended for viewing in the examination room and is designed for medical applications. The monitors is used for combined viewing of live images and reference display. Selection and storing of live to reference monitor is controlled by the infra-red remote-control viewpad or via touch screen module.
The On-Screen Display provides status information on stand rotation-angulation, table height, display of system messages, X-ray tube load status, selected fluoroscopy mode, selected detector Field of View, and both the rate and accumulation of the dose area product and Air Kerma dose.
The main characteristics are:

- 27 inch high brightness color TFT-LCD display
- Native format 1920x1080 Full HD
- 10 bit gray-scale resolution with gray-scale correction
- Wide viewing angle (approx. 178 degrees)
- High brightness (max 650 Cd/m2, default 400 Cd/m2)
- Long term luminance stability through backlight stabilization circuit
- Automatic brightness control with backlight sensor
- Control functions on side
- User programmable and standard reference setting
- On-Screen Display
- Internal selectable lookup table for gray-scale transfer function, including DICOM
- Internal power supply (100-240 VAC)
- Integrated LCD protection screen

If applicable included is a flat monitor ceiling suspension for 2 monitors (2F MCS). MCS includes motorized height adjustment. The ceiling suspension allows flexible monitor positioning over a range of about 360 x 300 cm. At customer request, this 2 monitor MCS can be replaced by a 4 or 6 fold MCS or an MCS integration kit HD for non-Philips MCS. The MCS integration kit HD contains vital parts for system operation.

B. Viewing in Control room
Philips Azurion includes two 24 inch high brightness color LCD monitors. The color monitors are for acquisition and reviewing display.
The main characteristics for color monitor are:

- 24 inch color TFT-LCD display
- Native format 1920x1080 Full HD
- High brightness (max 400 Cd/m2, default 350 Cd/m2)
- Wide viewing angle (approx. 178 degrees)
- Long term luminance stability through backlight stabilization circuit
- Automatic brightness control with backlight sensor
- Control functions on side
- User programmable and standard reference setting
- On-Screen Display
- Internal selectable lookup table for gray-scale transfer function, including DICOM
- Internal power supply (100-240 VAC)Integrated USB hub

A Philips Azurion system includes the DICOM Image Interface which enables the export of clinical images to a DICOM destination like a CD-Medical station or a PACS server. The export formats are based on DICOM 3.0 protocols. The system exports clinical studies in Cardiac DICOM XA Multi-Frame or DICOM Secondary Capture formats.

The DICOM Image Interface transfers through its fast Ethernet link, making images available on-line within seconds. The archive process can be configured by X-ray settings. The images are sent out either in the background, or manually upon completion of the examination. The export format is configurable in 512x512 or 1024x1024 matrix in 8 or 12 bit depth. The examination can be sent to multiple destinations for archiving and reviewing purposes. The DICOM Image Interface provides DICOM Storage and DICOM Storage Commitment Services. The DICOM Query/Retrieve function allows older DICOM XA MF and DICOM SC studies to be uploaded in the system. Furthermore, additional information can be appended to a study while keeping the patient identification the same.

Remote Intercom for the Azurion System. The option includes a separate intercom, which is connected independently from the system. This allows placement of the intercom at the preferred working position in the control room and examination room. The listen function can be separately selected on each intercom. Activating the talk function on a selected intercom automatically disables this function on the other intercom.

Uninterruptable Power System (UPS)

Ensures data integrity

A power failure of the hospital mains during an intervention can cause loss of data. If this occurs, the single phase Uninterruptable Power System (UPS) enables a proper shut-down of the X-ray system processor units.

Specifications

In case a full three phase UPS is selected, the single phase UPS is not delivered.

Remote service

Access to the system from a Remote location is possible via network or modem connection. Remote access to a system can shorten the time needed for e.g. changing system settings or problem diagnosis.

Environmental

At Philips Healthcare, we feel the responsibility towards society an d the environment. The latest 7 C20 system is a perfect example of our EcoVision program. Byexamining every aspect of the 7 C20 design and development through a green eye, we drastically reduced the products environmental impact.

System & table APC

Helps to save time and manage X-ray dose with automatic positioning

Positioning the X-ray system to visualize relevant anatomy from different perspectives can involve a great deal of time and many scout images during interventional procedures. To help save time and manage X-ray dose while working, the Automatic Position Controller (APC) provides an easy way for interventional team members to store and recall stand-related positions.

Specifications

The system APC stand and table positions need to be stored and recalled separately.

Clinical Education Program for Azurion System:

100237 Azurion 7 M20					
Line #	**Part #**	**Description**	**Qty**	**Each**	**Price**
		The purchase of the Azurion System includes a StartRight entitlement pool that allows for the customized delivery of educational events to improve staff time to proficiency, knowledge on system features, and improve overall lab efficiency. For new users, the recommended series of educational events includes: Essentials OffSite Education: Philips will provide up to two (2) Cardiovascular Technologists, Registered Technologists, Registered Nurses, or other system operator as selected by customer, with in-depth didactic, tutorial, and hands-on training covering basic functionality and work-flow of the cardiovascular imaging system. In order to provide trainees with the ability to apply all fundamental functioning on their system, and to achieve maximum effectiveness, this class should be attended no earlier than two weeks prior to system installation. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover OnSite Education. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. In the event that an EP Navigator workstation has also been ordered, the offsite training course will be tailored to focus on the electrophysiology functionality of the FD system and the EPN workstation. Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292102 (CV Full Travel Pkg OffSite) is purchased with all OffSite courses Initial Handover OnSite Education: The primary Philips Education Specialists will provide twenty-eight (28) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. Students should attend all 28 hours, and must include the two OffSite education attendees. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. It is highly recommended for systems that are fully loaded or for customers with a large number of staff members to also purchase 989801292099 (CV Add OnSite Clin Educ 24h). FollowUp OnSite Education: Philips Education Specialists will provide sixteen (16) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. Students should attend all 16 hours, and must include the two OffSite education attendees. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation. Assessment OnSite Year 1: The primary Philips Education Specialist will perform a two day onsite assessment at the customer site on or close to the first anniversary of the Initial Handover. The Specialist will assess through various means not limited to; physical observation of procedure workflow, tool usage data analysis and staff interviews. The Specialist will then review findings with department head and make recommendations thereof. The Specialist may perform refresher training if required. Education expires one (1) year from installation date (or purchase date if sold separately). Ref#2963392963402963412963422-20170209			
2	****FCV0824**	**video WCB on rear side 1st MCS**	**2**	**$5,345.89**	**$10,691.78**

Line #	Part #	Description	Qty	Each	Price

Isolated Wall Connection box on the rear side of the monitor ceiling suspension to support the display of an external video source on a monitor in the examination room.

Key benefits
• Easily connect external video in the exam room

Specifications
A wall connection box to connect external video (input only), USB and Ethernet. One or two WCB's (option) can be attached on the rear side of the 1st MCS with a bracket. A cable box (also attached to rear side of 1st MCS) can be used to store connected equipment cables. A maximum of two WCBs/cable boxes can be attached.

3	**FCV0588	**Isolated Wall Connection Box**	**8**	**$1,387.06**	**$11,096.51**

Isolated Wall Connection box to support the display of an external video source on a monitor in the examination room.

Key benefits
- Stream video from other modalities on the interventional X-ray suite:
- Connect external video in the exam room

Easily stream video to other locations
Many interventional facilities use video to record and stream images from other modalities on the interventional X-ray suite for training or presentation purposes. The Video Wall Connection Box facilitates connection of the video source via a standard DVI cable/connector and lossless transfer of the video signal over the approximate 30 meter long cable. It can be mounted in the examination room or in the control room, depending on the location of the video source.

Specifications
The quantity of the VWCB's has to be calculated as follows:
For each video signal via MultiVision: 1 VWCB (max = 4)
For each video signal to FlexVision XL on Cardio System: 1 VWCB (max = 9)
For each video signal to FlexVision XL on Vascular System: 1 VWCB (max = 8)
For each 3rd party video signal directly connected to an LCD in the MCS: 1x VWCB.
Note:
No VWCB is required in case a video signal is connected directly to a dedicated LCD from the following sources:
1) Live/ref Slaving
2) Interventional HW (XtraVision), IntelliSpace Portal, Philips Xcelera (only if workstations are powered by Philips X-ray system)
3)XperIM

4	**NCVD058	**FlexSpot**	**1**	**$39,120.26**	**$39,120.26**

Integrated work spot in the Control Room to view, control and manipulate all applications within a single view

Key benefits
• Access all applications on one compact workplace in the control room
• Set up unlimited custom screen layouts with all relevant information in one view
• Full flexibility of screen layouts (live resize, drag and drop)
• Clutter free and clean control room

Simplify control room workflow
Typical interventional control rooms are equipped with several workstations and controls to support procedures that require extra handling and space. FlexSpot helps you save time and space in the control room by giving you seamless access to all applications on one compact

Line #	Part #	Description	Qty	Each	Price

workplace. Easily set up any screen layout desired with all relevant information in one view. Resize, drag and drop items just like a tablet.

Specifications

FlexSpot offers an integrated workspot in the Control Room with one or more high resolution QHD (2560x1440) displays.

- Show internal video sources (e.g. Review, CR Live)
- Show up to 11 external video sources (e.g. Ultrasound, EchoNav, etc.)
- Video sources can be flexibly displayed on FlexSpot through user customizable presets. Users can customize the displayed layout and assign video sources to viewports as desired
- Up to 4 video sources can be displayed on a single FlexSpot display (excluding the add-on FlexSpot).
- Per display, the user can choose between 7 different layouts (positioning of viewports)
- FlexSpot offers user interaction through a keyboard and mouse with which users can seamlessly control all video sources on screen. Seamless means that users can move out of one viewport and into another without needing to press a special keyboard shortcut or use a gesture.
- In systems with both FlexSpot and FlexVision, FlexSpot offers convenient control access of FlexVision from the primary FlexSpot workspot.
- Users can define their own preset groups and preset names.
- Through field service, users can assign their own custom name and icon to a video source (also applies to FlexVision)
- The X-ray status area with all X-ray details is always visible on the primary display of the primary FlexSpot workspot.
- Up to 3 Philips workstations can be integrated into the technical room. With this, the workstations are powered from the system and are fully integrated into the system. Users do not need to separately power on/off these workstations.
- The snapshot function allows the user to store/save a screen-capture of any image on the FlexSpot as a photo image to the current Acquisition Patient study.
- 27 inch high brightness color LCD monitor for clinical image display in the Control Room.

The main characteristics for color monitor are:
- 27 inch color TFT-LCD display
- Native format 2560x1440 Quad HD
- High brightness (max 500 Cd/m2, default 350 Cd/m2)
- Wide viewing angle (approx. 178 degrees)
- Long term luminance stability through backlight stabilization circuit
- Automatic brightness control with backlight sensor
- Control functions on side
- User programmable and standard reference setting
- On Screen Display
- Internal selectable lookup table for gray-scale transfer function, including DICOM
- Internal power supply (100-240 VAC)
- Integrated USB hub

5	**NCVA099	**Ratchet compressor**	1	$1,125.67	$1,125.67

• Decrease motion artifacts on images

Decrease motion artifacts on images

Patient movement can cause motion artifacts in images. The ratchet compressor is used to immobilize the patient on the table and thereby decrease motion artifacts on images. It can be easily attached to the side of the table. The ratchet winding mechanism is attached to one side of the table. The quick release lever lets you easily pass the compression band over the patient and under the table for symmetrical compression.

6	**FCV0812	**live/ref slaving for ER**	1	$5,379.62	$5,379.62

Line #	Part #	Description	Qty	Each	Price

Live/ref slaving for Exam Room.

Key benefits
• Easily display any data or clinical information needed to work efficiently
Simplify workflow with flexible viewing control
Having patient data and clinical information easily available on screen can enhance decision making and efficiency during interventions. The live/ref slaving will enable the option to slave the Live and Ref video source from the X-ray system. The total amount of live/ref slaving that can be selected is max 5, minus the number of FCV0807 Live/ref slaving for CR.

Specifications
Live/ref slaving for ER is possible:
- On Philips MCS (additional monitor excluded from this option)
- In combination with FCV0519 1 or 2 MCS from Skytron/Steris

7	**NCVD069	ClarityIQ.	1	$118,503.33	$118,503.33

Significantly lower dose- across clinical areas, patients and operators.

Key benefits
• High-quality imaging at low dose levels
• Enhanced work environment for staff through active management of scatter radiation
• Expands treatment options – enables longer procedures to treat obese and high-risk patients with confidence

See with confidence every time
Interventions are becoming increasingly complex, which lengthens fluoroscopy time and increases the need for high resolution imaging. New devices can be more difficult to visualize, making it harder to position them precisely. The prevalence of patients with a high BMI can also require increased dose levels to visualize anatomy. All of these factors inspired us to completely redefine the balance in interventional X-ray with AlluraClarity.
AlluraClarity with its unique ClarityIQ technology gives you exceptional live image guidance during treatment. What's more, you can confidently manage low X-ray dose levels without changing your way of working. In short, you can see what you have to regardless of patient size.
Specifications
ClarityIQ technology is the foundation of Philips X-ray systems with AlluraClarity. It offers:
- Noise and artefact reduction, also on moving structures and objects
- Image enhancement and edge sharpening
- Automatic real-time patient and table motion correction on live images
- A flexible digital imaging pipeline from tube to display that is tailored for each application area
- Over 500 clinically fine-tuned system parameters making it possible to filter out more X-ray radiation and use smaller focal spot sizes and shorter pulses with the grid switching technology of Philips MRC tube and accompanying generator

8	**NCVC466	VesselNavigation Complete	1	$87,039.32	$87,039.32

The VesselNavigation Complete package consists of VesselNavigator, 3D-RA, 3D-RA on touch screen module, and 3D Roadmap.
Key benefits
• Complete Live Image Guidance solution for endovascular procedures.
• VesselNavigator supports navigation through complex vessel structures.
• 3D Roadmap provides full 3D view to enhance navigation of guide wire, catheter, and coils through complex vessel structures.

Complete Live Image Guidance solution for endovascular procedures
VesselNavigator Complete provides a complete Live Image Guidance solution for endovascular procedures, allowing you to plan, perform, and follow-up procedures with confidence. It consists of VesselNavigator, 3D-RA, 3D-RA on touch screen module, and 3D Roadmap.

VesselNavigator allows you to reuse 3D vascular anatomical information from existing CTA and MRA datasets as a 3D roadmap overlay on live 2D fluoro images. With its sophisticated visualization, it provides an intuitive and continuous 3D roadmap to guide you through vasculature during procedures. Using 3D Roadmap you can also create an overlay with a 3D contrast enhanced angiography volume. It provides real-time 3D views of the advancement of the guide wire, catheter, and coils through complex vessel structures. 3D Roadmap features automatic motion compensation for neuro exams.

Specifications

VESSELNAVIGATOR
The essential components of VesselNavigator are:
• 3D roadmap navigation with a personalized visualization of a CT or MR overlay of the selected vasculature on live fluoro.
• Both 2D and 3D registration for CT or MR image fusion
• Easy, intuitive four step workflow, with one click vessel segmentation
• Ring markers to easily indicate the ostia and landing zones.

VesselNavigator provides the following functions:
• One click vessel segmentation
• 3D landmarks
• Plan angles
• 2D registration
• 3D registration
• Live image guidance; Real-time overlay of the 3D Vessel segmentation on the live 2D X-ray images from the X-ray system of the same anatomy.
• Table tracking
• Table side control

VesselNavigator movies and snapshots can be stored/archived on:
- A PACS systems as DICOM Secondary Capture images or movies.
- USB device.
- One or multiple DVD's, CD-ROM(s) for easy archiving.
- Hard copy via the (DICOM Print) protocol.

3D-RA
3D-RA (3D Rotational Angiography) provides extensive 3D visualization of anatomy and vessels in just four seconds based on one rotational angiography run and one contrast injection. Its high-resolution 3D reconstructions provide critical information about depth and the relationship of one vessel to another to support the accurate assessment of anatomy and vasculature.

Image Acquisition
Image acquisition is performed with the Rotational Angiography feature of the X-ray system with the flexibility to position the C-arm in either head or side position.
C-arm in head position: scan range of 240 degrees with a rotation speed up to 55 degrees/sec.
C-arm in side position: scan range of 180 degrees with a rotation speed up to 30 degrees/sec.

3D Vessel Reconstruction
The rotational run is automatically transferred and displayed as a 3D vessel model: with the Real-

Time digital link (option) 120 images are reconstructed into a 3 dimensional model within seconds. Additional reconstructions, using the Reconstructive Zooming Technique, can be performed as well.

Workflow
Automated 3D-RA process from 3D acquisition to 3D Viewing,
3D at touch screen module (option),
3D Automatic Position Control (3D-APC),
3D Follow C-arc.

Calibration
3D-RA calibrations are performed by Philips Customer Support.
3D-RA calibration data are stable over at least 6 months' time.

Viewing
Real Time user interface.
Philips' CRM (Contrast Resolution Management) Technology.
Image rendering:
- Volume/Surface Rendering,
- MIP,
- Endoscopy,
- SUM (pseudo X-ray image)
- Gradient rendering,
- Cut-plane function,
- Orthoviewer,
- MPR (Multi-Planar Reformatting),
- SpineView,
- 5 distance measurements calculated in the same volume, including "Quick measurement".
- Volume calculation
- Automated Vessel Analysis (AVA),
- Computer Assisted Aneurysm Analysis (CAAA),
- Catheter tip shape simulation,
- Virtual stenting,
- Annotation,
- Interpolative Zoom
- Reconstructive Zooming Technique,
- Subtraction of reconstructed volumes,
- Automatic Voxelshift,
- Set grey values WW/WL,
- Store/Recall of user defined projections.

3D-RA ON TOUCH SCREEN MODULE
From the 3D-RA menu on the touch screen module, you can rotate, translate, and take snapshots of images. Views can be stored and recalled. You can select 3D-APC (3D Automatic Position Control) and follow stand mode.
Other 3D-RA functions on the touch screen module:
- Start mouse mode
- Segmentation (window-width/window-level control)
- 3D zoom control
- Recall Anterior-Posterior view

3D AND MR/CT ROADMAP
3D Roadmap overlays real-time 2D fluoroscopy images on a 3D reconstruction of the vessel tree acquired with 3D-RA or XperCT, both available on the X-ray system or previously acquired CT/MR

Line #	Part #	Description	Qty	Each	Price

data of the vessel tree. The resulting roadmap shows the progress of a guide wire, catheter, or coil in real-time. It is designed to improve visualization and navigation for complex neuro, vascular, and oncology interventions.

Specifications

3D Roadmap is based on the visualization of the vessel tree from 3D-RA acquisitions. The MR/CT roadmap is based on visualization of the anatomy on previous acquired CT or MR data sets. Both are activated with one button touch at tableside.

Viewing:
- Table side control: bidirectional link between the X-ray system and 3D Roadmap,
- 3D Automatic Position Control,
- 3D Follow C-arc,
- The 3D roadmap provides the freedom to change:
  - o The angulation of the C-arc,
  - o The rotation of the C-arc,
  - o The Field of View,
  - o The Source to Image Distance,
- Landmarking,
- 3D blending,
- WW/WL settings,
- Store and review runs,
- Store snapshots and movies.

Transfer/ export to:
- Optional Hard Copy unit (DICOM Print)
- DICOM compatible device, supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
- Any PC in a standard PC compatible format (JPEG,AVI)
- One or multiple DVD's, CD-ROM(s)
- USB device.

9	**NCVD059	**FlexSpot secondary monitor**	1	$8,313.95	$8,313.95

FlexSpot secondary monitor

Simplify control room workflow

This option adds a second QHD (2560x1440) high resolution monitor to the primary FlexSpot workspot.

Specifications

2nd Display for FlexSpot enables the user to show up to 8 video sources on a single FlexSpot workspot by combining 2 high resolution displays. Keyboard and mouse control is seamless across the 2 displays, see FlexSpot.

10	**NCVA783	**table pivot option**	1	$4,342.48	$4,342.48

- Flexible positioning for upper extremity angiography
- Easy patient transfer

Flexible positioning and transfers

Transradial access, upper extremity angiography, and patient transfer have never been simpler with our optional Pivot feature. One finger push-to-pivot allows effortless patient positioning. It moves with less friction, making it easier to move larger patients. A secure mechanism locks the tabletop in place to prevent it from moving.

11	**NCVA695	**FD Rotational Angio**	1	$18,676.88	$18,676.88

Line #	Part #	Description	Qty	Each	Price

Realtime 3D impressions of complex vasculature

Key benefits
• Use 3D imaging to quickly determine the projection angle for treatment in complex vascular interventions, surgery and radiotherapy
• Supports assessment of vascular pathologies for diagnostic and therapeutic decisions.

Revealing hidden structures
The complexity of interventional procedures lies in the fact that every person's pathology is unique. Visualization in three dimensions is therefore vital to aid decision making by the clinician. Rotational angiography provides real-time 3D impressions of complex vasculature and the coronary artery tree. Rotational Angio can be used to quickly determine the projection angle for treatment.

Specifications
Rotational Angio acquires multiple projections with just one contrast injection via a fast rotational scan of the region of interest. A rotational scan is possible both with the X-ray systems in the side position (ceiling mounted systems) and in the head position, providing the flexibility to perform procedures virtually from head to toe.
C-arm in side position:
Max. rotation Speed: 30 degrees/s
Max. rotation Angle: 180 degrees
C-arm in head position:
Max. rotation Speed: 55 degrees/s
Max. rotation Angle: 240 degrees
Max. Frame speeds are given by the frame speed specifications of the system configuration.
The very high movement speed allows using less contrast, whereas the very wide rotation range provides a complete evaluation of the anatomy.
A contrast run can be followed up with a mask run, to allow image/run subtraction.
The stand is designed for a very high mechanical stability. It offers precise positioning and high reproducibility, assuring you of high quality images and excellent subtraction studies. Rotational Angio results are available on the X-ray system.
Operation of Rotational Angiography is straight forward: the procedure is selected, set up and executed virtually in a matter of seconds, supporting high patient throughput.
A set of dedicated acquisition programs is available on the touch screen module and can be selected at the touch of a button. The Rotational Angio is controlled from the exposure hand- or footswitch.

12	**NCVC199	**Wireless footswitch: mono-plane version**	1	$6,842.57	$6,842.57

One wireless footswitch in the examination room.

Key benefits
• Reduces clutter around the examination table
• Simplifies preparation and cleanup
• Streamlines workflow in the interventional suite

Reduce clutter and streamline workflow
The wireless footswitch option streamlines workflow, reduces clutter, and simplifies preparation and cleanup in the interventional suite. Clinicians can use the footswitch to wirelessly control the X-ray system in the examination room, from any convenient position around the table. No sterile covers are needed with the IPX8 certified waterproof design.

Line #	Part #	Description	Qty	Each	Price

Specifications

• The mono-plane wireless footswitch is a 3 pedal version; one pedal for fluoroscopy, one for exposure and one to control the room light/single shot. The pedals can be configured according customers preferred lay-out.
• The wireless footswitch is working via RF technology and is fully tested and released for medical use. It has an active range up to 10 meters, depending on structures within this range.
• The wireless footswitch has a lithium battery which only needs to be recharged once per week. During recharging the footswitch still can be used and is fully functional. In parallel, a wired footswitch can also be used.
• The status of the battery is indicated by an LED-indication on the footswitch itself, so that the user can decide when the footswitch needs to be recharged.
• The wireless footswitch has high water ingress protection standard (IPX8), it can easily be cleaned in water.
The wireless footswitch has an on/off switch. It can be switched off when not in use. When the footswitch is active, but not in use, it will go into a sleep-mode. It will be re-activated when touched or when one of the pedals is pressed.

13	**NCVD064	extension to FlexVision Pro	1	$35,207.82	$35,207.82

Extension to Flexvision large 58 inch high resolution LCD for exam room, enabling flexible screen lay outs and full control (seamless mouse) of up to 11 external sources including third party systems.

Key benefits

- Full control at table side of all applications with seamless mouse control or via touch screen module
- Full flexibility of screen layouts (live resize, drag and drop, unlimited number)
- To simplify and standardize system set-up for your FlexVision Pro, your personalized layout will come up automatically with ProcedureCards.

Easy tableside control

With FlexVision Pro, user can control FlexVision and video sources on FlexVision through wireless mouse in Examination Room as well as virtual keyboard and touchpad on the touch screen module in the Examination Room. An operator can resize images and adjust the screen layout during the procedure without going into configuration.

Specifications

Full control at table side of all applications in the interventional lab (view and control) with a single wireless mouse or with a Touch Screen Module
• Integration: control of up to 11 external sources
• Possibility to configure unlimited flexible screen layouts
• Screenshots: with single click all displayed inputs can be captured
• Live resize the video window and adjust the screen layout during the procedure without going into configuration
• Operate all the video sources displayed on the monitor using the wireless mouse at tableside
• Mouse and keyboard function on the touch screen module (TSM) to control (external) sources

14	**NCVD072	SmartMask Monoplane	1	$10,426.17	$10,426.17

Line #	Part #	Description	Qty	Each	Price

Key benefits
• Simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image.
• Enables roadmap procedures to manage radiation dose and contrast media by selecting an image from an acquired series as a mask image.

Supports navigation during interventions without the need of additional contrast media.
SmartMask simplifies roadmap procedures by overlaying fluoroscopy with a selected acquired image in the Live X-ray window.

Specifications
The reference image can be faded in/out with variable intensity, controlled from tableside. SmartMask uses the reference image displayed on the reference monitor. Any previously acquired image can be used as reference. SmartMask facilitates pre- and post- intervention comparisons to assess treatment results.

15	**NCVD138	**table tilt option**	1	$17,816.82	$17,816.82

Table tilt option provides precise imaging of contrast medium, blood, or objects in the body.

Key benefits
• Tilts the table to support gravity oriented and puncture procedures
• Keeps the region of interest in the isocenter of rotation and angulation
• Allows more precise imaging of contrast medium, blood, or objects in the body

Precise imaging during gravity oriented and puncture procedures
To obtain high quality results and avoid re-takes during gravity oriented or puncture procedures, it's important to keep the region of interest centered at all times. The tilt option allows you to tilt the table. As the table tilts, the X-ray beam automatically adapts to the movement to keep the region of interest in the isocenter of rotation and angulation of the stand. As a result, your region of interest always remains centered to allow more precise imaging of contrast medium, blood, or objects in the body.

The table floats even when tilted, and the region of interest can be followed by panning the tabletop. When combined with the Bolus Chase option, the table tilt option enables phlebography to be performed with a head-up tilted patient.

Specifications
• Motorized table height from 78.5 - 103.5 cm
• Maximum tilt range: -17 degrees (head down) to +17 degrees (head up).
• Tilt speed: 2 degrees/sec
• Automatic safeguarding system with manual override
• Panning range in tilted plane: equal to the standard tabletop specifications (longitudinal 120cm, lateral 36cm)
• Easy to use controls

16	**NCVD097	**DVD writer**	1	$269.82	$269.82

Key benefits
• Store images and information on DVDs for easy sharing

Store images and information on DVDs for easy sharing
To provide flexible storage options, a DVD writer is available with the Philips X-ray system. Procedural images and information can be stored on DVDs and used for archiving, training and presentations.

Specifications
Export and import of X-ray images and X-ray runs to DVD and/or from DVD

17	**NCVD081	**Touch Screen Module Pro**	1	$24,448.58	$24,448.58

Line #	Part #	Description	Qty	Each	Price

Extension of Touch Screen Module for easy control of X-Ray images at table site

Key benefits
- Imaging parameters can be quickly and easily adjusted at tableside
- Clinical image are shown to support easy navigation. Collimate on the clinical image with one finger. Pinch, zoom, pan and flag images for processing. Position shutters and wedges by simply swiping the image on screen.
- All X-ray settings can be easily adjusted to help you effectively manage patient and staff dose

Enhance image navigation on the touch screen module
This option extends the functionality of the touch screen module, allowing live X-ray images and source images from reference monitors to be displayed on the touch screen module. Shutters and wedges can also be easily positioned with a fingertip by simply dragging them into position. A pointer is also available on screen to improve communication in and between the exam room and control room.

Specifications
- enhance image navigation on the TSM
- intuitive control of shutters and wedges by simply dragging the lines shown on top of the image
- provides intuitive zooming an panning functionality (also during fluoroscopy)
- turns the touchscreen into the pointing device in order to improve communication in ER/CR: when activated the pointer is shown on corresponding monitor

!!! Note: Touchpad and Keyboard control from the TSM is NOT part of this option but 'FlexVision Pro' option.

!!! Note: Images shown on the TSM are not meant for diagnostic purposes (image is downscaled, compressed and latency during live/replay maybe higher than on the live monitor)

18	**NCVD078	**FD Dual Fluoro monoplane**	1	$17,116.96	$17,116.96

An additional fluoro channel in parallel to the standard fluoro channel

Key benefits
- View the subtracted fluoroscopy next to the default non subtracted fluoroscopy
- View a digitally zoomed fluoroscopy image next to the default fluoroscopy image

Second fluoro image to support complex interventions
For complex interventions, it can be useful to view the subtracted fluoroscopy image next to the normal fluoroscopy image. The Dual Fluoro option provides an additional fluoro channel in parallel to the default fluoro channel. The dual fluoro option allows to view live digitally zoomed fluoroscopy next to non-zoomed fluoroscopy.

Specifications
The Dual fluoroscopy mode is selected via the touch screen module.
The trace subtracted fluoro image will be displayed on the live viewport, the non-subtracted fluoro image is displayed on the reference 3 viewport.
In Dual Fluoro mode, the live fluoroscopy image can be zoomed digitally, providing a larger view of the region of interest for complex interventions. The zoomed live fluoroscopy image will be shown on the live viewport, while the entire non zoomed image will be shown on the reference 3 viewport.
The fluoro zoom function is controlled via the touch screen module.

19	**NCVD030	**FlexVision XL HD**	1	$94,864.22	$94,864.22

FlexVision XL HD is an integrated viewing solution designed to give you full control over your viewing environment which brings High Definition viewing.

Key benefits

• Easily access multiple, up to 8, video inputs (including third party systems) video inputs to inform decision making during procedures
• Create custom display templates to support diverse procedures
• The screen layout of the FlexVision XL HD can also be changed from the control room
• Enlarge images to reveal more details and support comfortable working positions

Diagnostic information easily made available at table side

In today's interventional setting, as you perform more complex procedures with smaller devices in complex anatomy, you rely on various types of diagnostic information to guide you. To inform decision making in the exam room, Philips offers an advanced digital workspace called FlexVision HD. You can display multiple images in a variety of custom layouts on a large, high-definition LCD screen. Zoom in and out to enhance fine details, while maintaining an overview of all information. Create custom display templates for specific procedures/physician preferences to easily support diverse procedures.

Specifications

FlexVision XL HD offers:
• Native resolution of FD20 can be displayed.
• Sharp images at full size without zoom
• High Definition display at native resolution for ultimate detail
• Up to 2k*2k image display fully integrated
• Enhanced small vessel visualization

1. DVI video composition unit.
The DVI video composition unit allows the user to direct and switch the video output of all connected medical equipment to specific sub windows of the Philips 58-inch color LCD with LED backlight in the Examination Room.
• The DVI video composition unit is operated from the touch screen module.
• The DVI video composition unit supports a wide variety of display formats (up to 1920x1200)
• Up to 11 external inputs are connected to the DVI video composition unit via wall connection box or boxes.

2. Medical grade, high resolution color LCD in the Examination Room
This display supports the image quality requirements for monochrome X-ray images as well as color images and replaces all displays normally delivered with the system for the Examination Room.
Main characteristics are:
- 58-inch, 8 Megapixel color LCD
- Native resolution: 3840x2160
- Brightness: Max: 700 Cd/m2 (typical) stabilized: 400 Cd/m2
- Contrast ratio: 1:4000 (typical)
- Wide viewing angle (approx. 176 degrees)
- Constant brightness stabilization control
- Lookup tables for gray-scale, color and DICOM transfer function
- Full protective screen Ingress Protection: IP-21

3. Large color LCD control (touch screen module)
• Enlarge information at any stage during the case via the touch screen module in the Examination Room or Control Room.
• Select viewing lay-outs via the touch screen module in the Examination Room.
• Create new layouts by matching inputs to desired locations on preset templates.
• Adjust the screen layout during the procedure without going into configuration
• 20 layouts; each layout is customizable, size of viewports can be customized by end user X-ray status area visible with all X-ray details

Line #	Part #	Description	Qty	Each	Price

4. Monitor ceiling suspension
Monitor ceiling suspension for use in the Examination Room carries the 58-inch color LCD, providing highly flexible viewing capabilities. The monitor ceiling suspension is height-adjustable and moveable along ceiling rails. It can be positioned on either side of the table.

5. Snapshot
The snapshot function allows the user to store/save a screen-capture of any image on the FlexVision HD as a photo image to the current acquisition patient study.

20	**NCVD177	IW Hardware (FlexSpot)	1	$18,440.78	$18,440.78

Hardware for the 3D interventional tools combined with FlexSpot.

Key benefits
- Facilitates multimodality viewing in exam room and control room
- Supports DICOM compatible data from CT and MR imaging modalities
- Provides real-time access to images to support fast results

View multimodality images in exam room and control room
Images from a variety of sources are being increasingly used during interventions for a variety of Live Image Guidance tools. The Interventional Hardware option provides the hardware for our interventional tools that enables DICOM compatible data from other imaging modalities to be imported and viewed in the exam room and control room. To support fast results, a real-time digital image link is provided between the Interventional Hardware workstation and the X-ray system.

Specifications
The Interventional hardware is the hardware for the 3D interventional tools that included Real Time Link. It enables import and viewing of DICOM compatible data from other imaging modalities.
The Interventional Hardware comprises at least:
- Computer Workstation
- 16 GB memory
- 1.5 TB disk for the operating system, application software and application data
- Internal CD-ROM / DVD writer
- Mouse tablet to interact with all the interventional tools at the table side.

Conditionally:
FD Calibration Tool Kit for 3D-RA

21	**NCVD128	storage extension	1	$5,054.98	$5,054.98

Extends image storage capacity on your X-ray system
As imaging data becomes larger, you can quickly reach the limit of the storage capacity on your interventional X-ray system. The Storage extension extends the storage capacity of your interventional X-ray system.

Specifications
By default 50.000 images are available, this option will give 100.000 images (this is for 1K2 image size).

22	**NCVA258	CO2 VIEW TRACE	1	$2,786.78	$2,786.78

Software package enabling tracing (stacking) of images acquired with CO2 injections. This function can be used during postprocessing next to view trace of images acquired with CO2 injections.

23	**NCVC325	OncoSuite complete	1	$107,579.67	$107,579.67

OncoSuite provides a complete solution for embolization of hypervascular tumors in the liver and Percutaneous Ablation procedures in Interventional Oncology. Its 3D Live Image Guidance is based on the superior visualization with XperCT Dual, tumor embolization with EmboGuide and percutaneous Ablation with XperGuide with the Ablation option. OncoSuite Complete consists of XperCT Dual, EmboGuide and XperGuide with Ablation option.

XperCT Dual extends the capabilities of the interventional suite offering CT like imaging to visualize bone, soft tissue and vessels in case of contrast enhanced acquisition. XperCT Dual protocols are available covering routine procedures such as biopsies and drainages but also advanced procedures such as abdominal oncological imaging up to neuro high resolution stenting. All protocols can be selected at the tableside via the touch screen module.
The DualPhase dual view functionality allows the simultaneous visualization of two 3D datasets acquired at different times of the procedure such as the arterial and post-arterial contrast enhancement in oncologic liver imaging. In this DualView, XperCT Dual allows the segmentation of multiple lesions at the same time in the viewed datasets.
XperCT Dual acquires up to 60 frames/sec. (frame rate extension to 60frames/sec is included) and supports fast abdominal protocols with 5 to 10 second acquisition time for Allura release prior to 8.2 and even 5 to 8 second acquisition times for Allura release 8.2 or higher, thereby minimizing respiratory artifacts. The XperCT volume is displayed automatically within 8 to 15 seconds after acquisition. No user interaction is required.
XperCT Dual includes Metal Artifact Reduction to reduce the artifacts caused by metal presence in the region of interest. In case the original XperCT shows metal artifacts, the interventional radiologist can perform a second reconstruction and select for Metal Artifact Reduction, which will remove the artifacts caused by the metal present. The most typical examples of metal presence are: metal implants, coils or stents with stainless steel structures. Moreover, BMI Noise Reduction is included to reduce the noise caused by large size patients.

XperCT Open Trajectory (OT) and XperCT for LUMI are optional features of XperCT Dual. These features require Allura rel 8.1.25 or 8.2.25 or higher.
- For Allura (Rel >=8.1.25 or 8.2.25), please refer to NCVC494 - XperCT Open and NCVC552 - XperCT for LUMI for details.
- For Azurion systems, default acquisition mode is standard closed trajectory. Open Trajectory (OT) is available as an additional optional feature through NCVC 564 - XperCT Open and Closed. Please refer for details.

Note: BMI Noise Reduction is only available when Abdominal XperCT runs are selected

The XperCT volume can be viewed in the control room and in the examination room. The viewing package comprises:
• 3D volume viewing in any desired orientation
• Slice viewing in any desired orientation
• Slice viewing at any slice thickness with a minimum of 0.5 mm
• Five distance measurements calculated in the same volume, including "Quick measurement" feature
• Cut-plane functionality to provide precise insight into anatomical structure
• Unique high-resolution reconstructive zoom technique
• Graphical display of stand position including rotation and angulation parameters
• Contrast and brightness control
• Contrast resolution 5-10 Hu
• Spatial resolution of the initial reconstruction: 10 lp/mm
• Contrast range -1000 to 2000 Hu
• High resolution imaging mode produces
• 512x512x512 volume rendered reconstructions
• XperCT Dual can be controlled via the touch screen module and the mouse at tableside.

The XperCT volume can be matched with (when additional options are available) 3D-RA (3D Rotational Angiography) and pre acquired CT, PET/CT or MR volumes. This view allows combining multiple images from different modalities in order to provide additional anatomical insight. This multimodality volume can be viewed with the following functionalities:
• Registration of the two volumes from the same patient
• The resulting volume can be viewed with complete 3D-RA viewing functionality
• The XperCT slice can be overlaid onto the 3D vessel for better assessment of the region of interest
• Three different contrast rendering options to allow optimal viewing of the 3D vessel in the soft tissue structure
• (128x128x128, 256x256x256, 384x384x384 and 512x512x512 volumes)
• Movie clip recording functionality (AVI) to capture dynamic views
• 3D automatic position control at tableside: When an optimal working position is selected from the XperCT volume the C-arc steers itself to the selected position
• 3D Follow C-arc at tableside: When selected, the XperCT volume automatically follows the position of the C-arc.
• XperCT data and 3D-RA with XperCT Dual overlay is stored in the same patient file as all other patient related data. All this data can be reviewed at any time

XperCT data can be sent to:
• Any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera), supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D
• Any PC in a standard PC compatible format (JPEG,AVI)

XperCT datasets can be stored/achieved on:
• A PACS systems as DICOM Secondary Capture images or movies
• USB device
• One or multiple DVD's, CD-ROM(s) for easy archiving
• Hard copy via the (DICOM Print) protocol

EmboGuide provides workflow-guided Embolization support in three steps. The first step comprises of the Identification and Segmentation of multiple lesions. Secondly, the feeders of the segmented lesions are identified. The Automatic feeder detection function supports the user with this. Finally, Live Image Guidance is used in order to reach each of the identified feeders for a selective or super-selective Embolization.

The essential components of EmboGuide are:
• 3D lesion segmentation tool for 3D target(s) identification and volume measurement.
• Workflow-driven planning tool with automated feeding vessel detection and marking.
• 3D roadmap navigation with lesion and feeding paths overlay.

Depending on X-ray system configurations, XperCT Dual allows obtaining two manual forward scans or two automatic rotational scans with a user-defined delay between them (automatic rotational scans only for Allura release 8.2 or higher). In case of two automatic rotational scans, the first scan is performed in a forward direction while the second one is performed in reverse direction (DualPhase wiper rotation). In both configurations, the first phase can be used to show early tumor contrast uptake and its feeding vessels, while the second scan can be used to depict the delayed contrast uptake in lesion, determining its vascularity and perfusion. Optimal automatic high volume reconstruction is in this respect is essential to secure appropriate feeding vessel detection in the first phase and a good soft-tissue contrast in the second phase. The 3D lesion segmentation is an interactive user-guided tool that allows isolating regions of interest in a 3D volume using image-specific features. The tool can be used for user-guided segmentation of lesions from MR, CT or XperCT volumes. A workflow-driven planning tool, building on already available vessel detection and volume cut features, can then be used to highlight the feeding vessels to the lesion. Real-time overlay and registration of the 3D volume on live 2D X-ray images

from the X-ray system of the same anatomy can be used as additional 3D image guidance to support the navigation of the device/catheter. Planning data, like the earlier annotated feeding vessels and/or 3D landmarks can be displayed on 2D-3D fused images as supporting information.

EmboGuide provides the following functions:
• Automatic Feeder Detection; supports the user in analyzing the vasculature of lesions by giving the initial suggestions of the feeding vessels of the segmented lesions. The detected feeding vessels will be annotated and added to the planning.
• Manually add and/or remove feeding vessels; after running the automatic feeder detection function, the user can verify and refine the planning by manually adding and/or removing feeding vessels.
• Follow Feeder; for verification, the user may use the Follow Feeder function. This function allows the user to trace the path of a single annotated feeding vessel to verify whether it traces into a targeted lesion.
• 3D Landmarks; landmarks can be put on the 3D volume as additional information to support with the navigation of the catheter.
• Live 3D Image Guidance; real-time overlay and registration of the 3D volume on the live 2D X-ray images from the X-ray system of the same anatomy, can provide additional 3D image guidance to help the user with navigating the device/catheter to the embolization target.
• Storage of the live 2D-3D overlay runs; the real-time overlay of the 3D volume with the live 2D X-ray images from the X-ray system can be recorded and stored for reviewing at any time.
• Table-side control; to provide efficient work-flow during the interventional procedures, the most frequently used functions can be controlled from table-side.
Image data for EmboGuide is stored together with the EmboGuide movies and snapshots and can be sent to any optional DICOM compatible device (e.g. PACS/IntelliSpace Portal/Xcelera). Supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D and any PC in a standard PC compatible format (JPEG,AVI). All this data can be reviewed at any time.

EmboGuide movies and snapshots can be stored/achieved on:
• A PACS systems as DICOM Secondary Capture images or movies.
• USB device.
• One or multiple DVD's, CD-ROM(s) for easy archiving.
• Hard copy via the (DICOM Print) protocol.

XperGuide enables real-time needle guidance in the angio suite. Virtual needle paths are created by XperCT Dual data and on overlays of previous acquired MR, CT, or PET/CT datasets. In order to visualize the actual needle path versus the virtual path that is planned upfront, XperGuide offers the possibility to match real-time 2D fluoroscopy images with 3D volume of XperCT Dual, CT, PET/CT or MR datasets. A wide range of gantry projections can be used to define the needle path. This volumetric dataset can be viewed in any slice direction providing optimal sight.
Path planning in XperGuide can be done by:
• Drawing a virtual needle path on an XperCT, CT, PET/CT or MR slice
• Defining entry and target points on different XperCT Dual, MR, CT or PET/CT slices
• Defining a help line on a 3D volume XperGuide automatically calculates the optimal gantry projections for the path and transfers them to the planning to draw the needle path. The calculated virtual needle paths can be viewed on the XperCT Dual, MR, CT or PET/CT slices, to verify if this path is feasible

XperGuide supports planning of multiple needle trajectories. During the needle procedure, XperGuide is fully controlled at tableside. When XperGuide is active, guidance is automatically active when the fluoroscopy pedal is pressed. The live 2D image is projected over the XperCT Dual, MR, CT or PET/CT volume. The gantry can be positioned in the calculated gantry positions or controlled manually. The XperGuide images (live 2D fluoroscopy projected over the XperCT Dual, MR, CT or PET/CT volume) will follow the gantry projections.

Line #	Part #	Description	Qty	Each	Price

At table side, XperGuide adapts in real-time to the following parameters:
- Changes in the angulation of the C-arm
- Changes in the rotation of the C-arm
- Changes in the field of view
- Changes in the source image distance

XperGuide data, like XperGuide movies and snapshots, can be exported to any optional DICOM compatible device (e.g. PACS/ViewForum/Xcelera). Supported are DICOM XA, DICOM SC, DICOM CT and DICOM 3D and any PC in a standard PC compatible format (JPEG,AVI).
XperGuide movies and snapshots can be stored/achieved on:
- A PACS systems as DICOM Secondary Capture images or movies
- USB device
- One or multiple DVD's, CD-ROM(s) for easy archiving
- Hard copy via the (DICOM Print) protocol

XperGuide Ablation is an extension to the XperGuide software to facilitate the planning of tumor ablation procedures. It supports all percutaneous ablation techniques (RF, microwave and cryo-ablation) by displaying the isotherm of the chosen ablation needle. It allows the visualization of multiple needles by entering their thermal characteristics, and the assessment of their combined impact in the ablation zone. A virtual ablation needle with its thermal characteristics is displayed on a 3 dimensional XperCT volume or previously acquired CT, MR or PET/CT data to verify optimal positioning of the needle and obtain total tumor coverage. The thermal characteristics of each needle consist of the width, breadth and front of its ablation zones. Per needle up to three ablation zones of different isotherms can be defined. XperGuide Ablation allows to plan and store up to 60 different types of thermal needle characteristics simultaneously.
All thermal characteristics can be stored and transferred to other X-ray systems. After the needle planning is performed, the 2D fluoroscopy overlay on the 3D volume allows real time needle guidance along the planned trajectory on XperCT, MR, CT and PET/CT datasets. During live needle guidance it is possible to adjust the ablation transparency and modify the previous plan. After the needle(s) are positioned, it's possible to control the effective ablation target with the previous plan.

24	****FCV0817**	**Accessory rail + cable ext.kit**	**1**	**$3,305.34**	**$3,305.34**

- Extend the length of the OP rail to fit cardio and neuro tabletops
- Position operating modules and/or accessories conveniently
- Work comfortably at the head end of the table

Extend the length of the OP rail
To provide more flexibility when performing procedures, the additional OP rail accessory with cable extension kit is equipped with everything needed to mount operating modules and/or accessories next to the tabletop.

Specifications
This option includes the following items:
- One additional OP rail (mechanical) of 500 mm
- Cable extension set for OP rail
- Extension cable for control module, 1.3 meters long
- One connection box to connect the user interface cables to the module cables
- An extension for the table op rail of 500 mm

Line #	Part #	Description	Qty	Each	Price

The additional OP rail can be mounted on either side of the tabletop where no OP rails are mounted. The additional OP rail is compatible with AD5 and AD7 Table (cardio and neuro) patient tabletops. The OP rail has the same profile and dimensions as the current standard OP rail. The maximum load (downwards) on the additional OP rail is 100 N (F=100N), the maximum mechanical moment on the additional OP-Rail is 40Nm downwards and 20Nm upwards, determined by the tabletop of the patient table.

25	**NCVC564	**XperCT Open and Closed**	1	$3,912.45	$3,912.45

For Philips Azurion Interventional X-ray suites, Open trajectory function is available in propeller mode in addition to the current standard trajectory.

Specifications

Open Trajectory provides 3D rotational acquisitions with start and stop positions of +55° to -185° respectively. This protocol opens the arc to the left side of the patient allowing for a wider translation of the angiographic table towards this direction; thereby shifting the isocenter of the C-arm to the right lateral side of the patient. This enables visualizing off-centered regions of interest (such as the periphery of the liver) in a single sweep. In this function, the data is acquired at the same frame rate as XperCT Dual (60 frames/sec). With 'XperCT Open and Closed' functionality, customers can continue to retain the current standard closed trajectory protocols. Therefore, customers will be able to choose either of the trajectories in propeller mode during the procedure as per their preference.

26	**980406041009	**Rad Shield w/ Arm (Contoured) 61X76**	1	$2,479.01	$2,479.01

Contoured Rad Shield with Arm rest. 61X76

27	**989801220273	**Ceiling Track w/Column & Handle Ext**	1	$3,718.51	$3,718.51

Mavig 2.5m Ceiling Track with Ceiling trolley, 360 degree column, and brake handle extension.

28	**989801225022	**Medrad Mark 7 Arterion Pedestal**	1	$23,609.60	$23,609.60

The Arterion Mark 7 Pedestal contrast medium injector can be positioned anywhere at the patient positioning table on a mobile unit, for direct operation of all functions in the examination room.

The injector system includes:
- A mobile pedestal stand with electronics unit and a connection cable to the manual release.
- A support arm with injector head and a control lever for moving the injector head.
- A user control console with large touch screen and corresponding additional monitoring display on the injector head.

Functions
Pressure limitation:
- for 150 ml syringes 689 to 8273 kPa,
corresponds to 100 to 1200 psi. .

Flow rates for 150 ml syringes:
- 0.1 to 45 ml/s in increments of 0.1 ml/s
- 0.1 to 59.9 ml/min in increments of 0.1 ml/min
- rise/fall: 0 to 9.9 s in increments of 0.1 seconds

Release delay for injection or radiation:
- 0 to 99.9 s in increments of 0.1 s.

Adjustable volume for 150 ml syringes:
- 1 ml to the max. syringe capacity in increments of 1 ml.

Fill rate:
- Variable syringe filling speed 1-20ml/s.

Line #	Part #	Description	Qty	Each	Price

Injection protocols:
- Up to 40 injection protocols possible.

Parameters currently displayed on the touch screen display and on the head display:
- Injection speed
- Injection volume
- Remaining volume
- Injection duration
- Applied pressure

Contrast medium heating:
- Nominal 35°C (95°F)+-5°C (9°F)

Injection data memory
- Up to 50 injection data items stored

Included in the scope of delivery
- Injector standard configuration 150 ml
- Philips interface cable
- Operator Manual
- Service manual (English).

Power supply
100-240 VAC 50/60 Hz 1000VA.

29	**989801256033	**iXR Additional Training 24 Hours OnSite**	1	$6,710.00	$6,710.00

Clinical Education Specialists will provide twenty-four (24) hours of IXR OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips.

Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately).

30	**989801220380	**Full Load Remote UPS**	1	$37,585.64	$37,585.64

MGE Galaxy 5000 80 kVA Full Load – 40kW UPS with remote capability. Includes top feed cabinet and optional side panels, ISX0001369526 G5TUPSU80KPAdjacent MGE Galaxy 5000 Battery Cabinet with one full string of batteries and standard Galaxy 5000 Adjacent battery Temp sensor.
High Voltage 6 Alarm Relays Card
MGE GALAXY 5000 Remote Alarm Status Panel
MGE SNMP/Web Communication Card
Top Feed Auxiliary Cabinet
In the event of a power loss the UPS provides emergency power to allow system function and full X-Ray exposure and fluoroscopy for up to 15 minutes.

31	**NNAE497	**Clinical Education Package for OncoSuite Complete**	1		

XperCT Handover OnSite Education: Philips Education Specialists will provide eight (08) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

iXR EmboGuide OnSite Education: Philips Education Specialists will provide eight (8) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets

Line #	Part #	Description	Qty	Each	Price

the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

iXR Onco Ablation (XperGuide) OnSite Education: Philips Education Specialists will provide eight (8) hours of education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU credits may be available for each participant that meets the guidelines provided by Philips. Please refer to guidelines for more information. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref#292335296250296249-20151215This training requires the purchase of OncoSuite Complete.

32 ****NNAE504** **Clinical Education Program for Vessel Navigation** **1**

Philips Imaging Systems Clinical Education Specialist will provide twenty-four (24) hours of education for up to four (4) students, as selected by customer, including technologists from weekend/night shifts as necessary. CEU credits are not available for this portion of training. Please refer to guidelines for more information. Note: Site must be patient ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref#296276-20150820
This training requires the purchase of Vessel Navigation.

33 **SP019** **Trade in Allowance** **1** **($47,600.00)** **($47,600.00)**

Customer represents and warrants that (i) Customer has, and shall have when title passes, good and marketable title to the equipment being traded in and (ii) has the authority to effect such trade in.

Product: Allura Xper FD20
Serial Number: 53598789
Manufacturer: PHILIPS HEALTHCARE

Trade-In authorization number:	48292
Trade-In Value:	$47,600.00
De-install Date:	6/30/2018

Customer will be trading-in equipment that is described on the attached System Disclosure Form (the "Trade-In"), which Trade-In the parties agree (i) will be removed on the De-install Date and (ii) is currently in the condition as represented on the System Disclosure Form. In addition, the parties agree as follows:

1. Customer represents and warrants that Customer has good and marketable title to the Trade-In as of the date of this Quotation and will have good and marketable title when Philips removes the Trade-In from Customer's site (the "Removal Date");
2. Title to the Trade-In shall pass from Customer to Philips on the Removal Date, unless otherwise agreed by Philips and the Customer;

Line #	Part #	Description	Qty	Each	Price

3. Notwithstanding anything to the contrary in any Business Associate Addendum, Customer represents and warrants that as of the Removal Date all Protected Health Information will have been de-identified or removed from the Trade-In;
4. Philips may test and inspect the Trade-In prior to de-installation. If the condition of the Trade-In is not substantially the same on the Removal Date (ordinary wear and tear excepted) as it is identified on the System Disclosure Form, then Philips may reduce the price quoted for the Trade-In;
5. If the removal date is delayed until after the De-Install Date, unless Philips causes the delay, then Philips may reduce the price quoted for the Trade-In by six percent (6%) per month.
6. Philips is responsible for normal de-installation costs of the Trade-In.
7. The trade-in value will not include costs associated for any facility modifications and/or rigging required for de-installation and must be accounted for separately.
8. Customer is responsible for all plumbing necessary to properly drain coolant from chiller system and cap the lines.
9. Prior to the Removal Date, Customer shall remove from the room all equipment that is not being de-installed.

100237 Azurion 7 M20

LIST PRICE	$3,270,710.00
DISCOUNT	$1,887,865.14
TRADE IN AMOUNT	($47,600.00)
NET PRICE	$1,335,244.86

Buying Group: UNIVERSITY OF VERMONT HEALTH NETWORK Contract #: SBA11583M and LSP000030

Addt'l Terms: The specific Contract # referenced above represents the Novation or Vizient agreement with Philips containing discounts, fees and any specific terms and conditions, including the Vendor's Terms and Conditions of Sale (subject to such Contract),

Each Quotation solution will reference a specific Buying Group/Contract Number representing an agreement containing discounts, fees and any specific terms and conditions which will apply to that single quoted solution. If no Buying Group/Contract Number is shown, Philips' Terms and Conditions of Sale will apply to the quoted solution.

Each equipment system listed on purchase order/orders represents a separate and distinct financial transaction. We understand and agree that each transaction is to be individually billed and paid.

Price above does not include any applicable sales taxes.

The preliminary delivery request date for this equipment is:_____.

If you do not issue formal purchase orders indicate by initialing here_____.

Tax Status:

Taxable_____ Tax Exempt_____

If Exempt, please indicate the Exemption Certification Number:_____, and attach a copy of the certificate.

Delivery/Installation Address:

_____

_____

_____

Invoice Address:

_____

_____

_____

Contact Phone #:

_____

Contact Phone #:

_____

Purchaser approval as quoted:

_____

Date:

_____

Title:

_____

This quotation is signed and accepted by an authorized representative in acknowledgement of the system configuration, terms and conditions stated herein.

Philips Standard Terms and Conditions of Sale

The products and services listed in the quotation are offered by Philips Healthcare a division of Philips North America LLC ("Philips") only under the terms and conditions described below (the "Terms and Conditions of Sale" or "Agreement").

1. Price; Taxes.
The purchase price stated in the quotation does not include applicable sales, excise, use, other taxes, or government surcharges in effect or later levied. Customer shall provide Philips with an appropriate exemption certificate reasonably in advance of the date the product is available for delivery, otherwise, Philips shall invoice Customer for those taxes, as well as any other government surcharges, and Customer shall pay those taxes in accordance with the terms of the invoice. Customer is defined as a legal entity, its affiliates and or subsidiaries who purchase product(s), and take title of the purchased product(s) from Philips.

2. Cancellation.
Philips' cancellation policies are set forth in the applicable Product Specific Schedule attached to these Terms and Conditions of Sale.

3. Payment Terms.
3.1 Unless otherwise specified in the quotation, Philips will invoice Customer, and Customer will pay such invoice based on the date of invoice for each product in accordance with the payment terms set forth in the applicable Product Specific Schedule attached to these Terms and Conditions of Sale:
3.2 Philips may make partial or early shipments and Customer will pay such invoice based on the date of invoice for each product in accordance with the payment terms set forth in the quotation.
3.3 Orders are subject to Philips' on-going credit review and approval.
3.4 Customer shall pay interest on any amount not paid when due at the annual rate of twelve percent (12%) or at the maximum rate permitted by applicable law, whichever is lower. If Customer fails to pay any amount when due, in addition to any other rights or remedies available to Philips at law or in equity, Philips may discontinue the performance of services, discontinue the delivery of the product, or deduct the unpaid amount from any amounts otherwise owed to Customer by Philips under any agreement with Customer. In any action initiated to enforce the terms of the quotation following a Customer default or product cancellation under an order arising from the quotation, Philips shall be entitled to recover as part of its damages all costs and expenses, including reasonable attorneys' fees, in connection with such actions.
3.5 Payment methods – Payments may be made by check, ACH or wire. Philips does not accept transaction fees for wire transfers.
3.6 Credit Cards. Philips, at its discretion, may accept credit cards on payments, with a value of $10,000 or less, that are made on or before invoice due date.

4. Trade - In.
If Customer will be trading-in any equipment ("Trade-In"), then:
4.1 Customer represents and warrants that Customer has good and marketable title to such Trade-In;
4.2 Title to the Trade-In shall pass from Customer to Philips upon Philips making the new equipment available to Customer for first patient use. Removal of the Trade-In from Customer's site shall occur no later than the date Philips makes the new product available for first patient use, unless otherwise agreed in writing between Philips and the Customer;
4.3 Notwithstanding anything to the contrary in a current applicable Business Associate Addendum ("BAA") between the parties, Customer represents and warrants that Customer has removed or de-identified all Protected Health Information ("PHI") from the Trade-In equipment as of the date the equipment is removed and will otherwise comply with all applicable privacy laws. To the extent Customer has not done so, Customer agrees to reimburse Philips for any out-of-pocket costs Philips incurs to remove or de-identify PHI from the Trade-In.
4.4 Customer will ensure that the Trade-In is clean and sanitized and that all potentially infected materials and biological fluids are removed prior to its de-installation and removal.
4.5 If (a) the condition of the Trade-In is not substantially the same when Philips removes the Trade-In (ordinary wear and tear excepted) as it was when Philips quoted the Trade-In value; or (b) Customer delays the removal of the Trade-In, then Philips may reduce the price quoted for such Trade-In or cancel the Trade-In and Customer will pay the adjustment amount within thirty (30) days from the date of invoice.
4.6 If Philips does not receive timely possession of the Trade-In, Philips will, at its option, either charge Customer the amount of the Trade-in allowance and cancel the trade-in, re-value the trade-in allowance accordingly, and/or charge Customer a rental fee of 10% of the trade-in allowance per month or partial month until the trade-in is available for removal. Customer will pay any invoiced allowance adjustment or rental fee within thirty (30) days from the invoice date.
4.7 Evidence that Customer intends to trade in an asset as part of the purchase or lease of any product(s) shall be in the form of, but not limited to: (a) receiving a trade in quote and/or authorization from Philips on the value of the asset to be traded in; (b) providing Philips with serial numbers of assets to be traded in; and/or, (c) providing Philips with a de-installation date to remove an existing asset in order to install Philips quoted equipment.

5. Leases. If Customer desires to convert the purchase of any product to a lease, Customer will arrange for the lease agreement and all other related documentation to be reviewed and approved by Philips not later than ninety (90) days prior to the date of the availability for delivery of major components of the product. The Customer is responsible for converting the transaction to a lease, and is required to secure the leasing company's approval of all of these Terms and Conditions of Sale. No product will be delivered to the Customer until Philips has received copies of the fully executed lease documents and has approved the same. For any lease, if the lease doesn't fund then (i) Customer guaranties the payment of all monies due or that may become due under this agreement (ii) Philips may convert the lease back to a purchase and invoice Customer accordingly and (iii) Customer will pay all such invoiced amounts per the invoice terms.

6. Security Interest. By signing the quotation or issuing a purchase order for the products described, Customer hereby grants to Philips a purchase money security interest in the products until all payments have been made. Philips may file a financing statement for such security interest and Customer shall sign any financing statements or other documents necessary to perfect Philips' security interests in the products. Where permitted by applicable law, Customer's signature on the quotation or on a purchase order issued as a result of the quotation gives Philips the right to sign on Customer's behalf and file any financing statement or other documents to perfect Philips' security interest in the product.

7. Shipment and Risk of Loss.
7.1 Delivery terms are stated in the applicable Product Specific Schedule attached to these Terms and Conditions of Sale.
7.2 Except as otherwise stated in the applicable Product Specific Schedule, title to any product (excluding software), and risk of loss or damage shall pass to the Customer F.O.B. destination. Customer shall obtain and pay for insurance covering such risks at destination.

8. Site Preparation and Installation.
8.1 Site Access. Customer shall provide Philips full and free access to the installation site and a suitable safe space for the storage of the products before installation. Customer shall ensure, at no charge to Philips, that there are no obstacles preventing Philips from moving the product from the entrance of the Customer's premises to the installation site.
8.2 Site Preparation and Installation.
(a) Customer Responsibility. Customer shall be responsible, at its expense, for rigging, the removal of partitions or other obstacles, installation of safety switch or breaker, and restoration work. The products will be installed during normal working hours. Except where Philips has agreed in writing to provide construction services for a fee pursuant to a construction agreement and scope of work signed by Customer, Customer shall be responsible, at its expense, for the preparation of the installation site where the product will be installed including any required structural alterations. Customer shall provide any and all plumbing, carpentry work, conduit, wiring including communications and/or computer wiring, network equipment, power supply, surge suppression and power conditioning (except to the extent they are expressly included in the quotation), fire protection and environmental controls, ground fault and isolation system, and other fixtures and utilities required to properly attach, install, and use the product. Site preparation shall be in compliance with all applicable laws, including all safety, electrical, and building codes relevant to the product and its installation and use. The sufficiency of any installation site plans shall be the responsibility of Customer. Customer, at its expense, shall obtain all permits and licenses required by federal, state, or local authorities in connection with the installation and operation of the product, including any certificate of need and zoning variances.
(b) Unless otherwise specified by Philips, Customer shall advise Philips of site conditions at or near the location where equipment is installed five (5) days prior to the mutually agreed upon delivery date. The update shall include but not limited to the following:
(i) Hazardous Materials. Asbestos and other hazardous materials that could adversely affect the installation or pose a health or safety risk to Philips' personnel, and Customer shall ensure that those conditions are corrected and hazardous materials removed, and that the site is fully prepared and available to Philips before installation work begins. Customer represents and warrants that an asbestos survey of the facility has been performed to determine the presence, location, quantity and condition of asbestos containing materials (ACM) or presumed asbestos containing materials (PACM) at the facility; and the facility and/or work area does not contain any ACM or PACM or the facility and/or work area contains ACM or PACM, such material has been encapsulated or enclosed in accordance with applicable laws and the work will not disturb any such materials.
(ii) Construction. All construction work in technical and operator room(s) is finished including but not limited to the responsibilities identified in 8.2 (a).
(c) Delays. If site preparation is not on schedule five (5) days prior to the mutually agreed upon delivery date or as otherwise specified by Philips, Philips and Customer will conduct an evaluation of the site and establish a revised installation schedule. In the event that installation is delayed by Customer within five (5) days prior to the mutually agreed upon delivery date or after the start of installation, Customer will be responsible for: (i) storage and fees for the preservation and life support of the equipment to ensure high quality and long life of system(s); and, (ii) Costs associated with rescheduling and coordination for all resources and third party providers, including travel costs for split delivery and installation directly related to the delay in installation. If during installation Philips discovers hazardous materials (i.e. asbestos, etc.) all installation activities will stop and Customer will remove and dispose of the hazardous materials. Once the issue giving rise to the delay has been rectified and the site meets the criteria set forth in this Section 8, Philips and Customer will conduct an evaluation of the site and establish a new installation schedule.
(d) Philips Responsibility. Unless additional professional services are purchased separately (including turnkey) and/or professional services are set forth in a statement of work or project implementation plan under the agreement for the product purchased hereunder upon delivery, Philips will unpack the product (if unpacking is required), and connect the product to a safety switch or breaker that has been installed by the Customer, and calibrate and test the product.
8.3 PHILIPS MAKES NO WARRANTY AND ASSUMES NO LIABILITY FOR THE FITNESS OR ADEQUACY OF THE SITE IN WHICH THE PRODUCT IS TO BE INSTALLED OR USED. EXCEPT OTHERWISE PROHIBITED BY STATE LAW OR STATE CONSTITUTION CUSTOMER SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS PHILIPS AND ITS AFFILIATES AGAINST ANY COSTS, LOSSES, EXPENSES, PHYSICAL PROPERTY DAMAGE, AND/OR THIRD PARTY CLAIMS, INCLUDING SUBROGATION CLAIMS, COLLECTIVELY ALL THE FOREGOING ARISING FROM OR RELATING TO CUSTOMER'S SITE PREPARATION RESPONSIBILITIES.
8.4 **Local Labor**. If local labor conditions, including but not limited to a requirement to utilize union labor, require the use of non-Philips employees to participate in the installation of the product, then such participation of non-Philips employees shall be at Customer's expense. In such case, Philips will provide engineering supervision during the installation.
8.5 **Remote Services Network ("RSN")**. Customer will (a) provide Philips with a secure location at Customer's premises to store one Philips remote services network router and provide full and free access to this router, (or a Customer-owned router acceptable to Philips) for connection to the equipment and to Customer's network; or (b) provide Philips with outbound internet access over SSL; at all times during the warranty period provide full and free access to the equipment and the Customer network for Philips' use in remote servicing of the product, remote assistance to personnel that operate the products, updating the products software, transmitting automated status notifications from the product and regular uploading of products data files (such as but not limited to error logs and utilization data for improvement of Philips products and services and aggregation into services). Customer's failure to provide such access will constitute Customer's waiver of the scheduled planned maintenance service and will void support or warranty coverage of product malfunctions until such time as planned maintenance service is completed or RSN access is provided. Customer agrees to pay Philips at the prevailing demand service rates for all time spent by Philips service personnel waiting for access to the products.

9. Product Warranty.
9.1 (a) If a separate product warranty prints as part of the quotation, that product warranty applies to your purchase and is incorporated herein; otherwise Section 9.2-9.7 shall apply unless the product is identified under 9.1 (b). (b) For Patient Care and Monitoring Solutions Portfolio (PCMS), Emergency Care & Resuscitation Portfolio, (ECR) and Medical Supplies Portfolio (MS) Products, the product warranty document can be found at: http://www.usa.philips.com/healthcare/about/terms-conditions, or can be provided upon request.
9.2 **Hardware/Systems**. Philips warrants to Customer that the Philips equipment (including its operating software) will perform in substantial compliance with its performance specifications, in the documentation accompanying the products, for a period of 12 months beginning upon availability for first patient use.

9.3 **Stand-alone Licensed Software.** For a period of ninety (90) days from the date Philips makes Stand-alone Licensed Software available for first patient use, such Stand-alone Licensed Software shall substantially conform to the technical user manual that ships with the Stand-alone Licensed Software. "Stand-alone Licensed Software" means sales of Licensed Software without a contemporaneous purchase of a server for the Licensed Software. If Philips is not the installer of the Stand-alone Licensed Software, the foregoing warranty period shall commence upon shipment.

9.4 If the start of the installation is delayed for any reason beyond the control of Philips for more than thirty (30) days following the date that Philips notifies Customer that the major components of the product are available for delivery, the warranty period begins on the thirty-first (31st) day following that date.

9.5 Philips' sole obligations and Customer's exclusive remedy under any product warranty are limited, at Philips' option, to the repair or the replacement of the product or a portion thereof within thirty (30) days after receipt of written notice of such material breach from Customer ("Product Warranty Cure Period") or, upon expiration of the Product Warranty Cure Period, to a refund of a portion of the purchase price paid by the Customer, upon Customer's request. Any refund will be paid, to the Customer when the product is returned to Philips. Warranty service outside of normal working hours (i.e. 8:00 A.M. to 5:00 P.M., Monday through Friday, excluding Philips' observed holidays), will be subject to payment by Customer at Philips' standard service rates.

9.6 This warranty is subject to the following conditions: the product: (a) is to be installed by authorized Philips representatives (or is to be installed in accordance with all Philips installation instructions by personnel trained by Philips); (b) is to be operated exclusively by duly qualified personnel in a safe and reasonable manner in accordance with Philips' written instructions and for the purpose for which the products were intended; and, (c) is to be maintained and in strict compliance with all recommended and scheduled maintenance instructions provided with the product and Customer is to notify Philips immediately if the product at any time fails to meet its printed performance specifications. Philips' obligations under any product warranty do not apply to any product defects resulting from improper or inadequate maintenance or calibration by the Customer or its agents; Customer or third party supplied interfaces, supplies, or software including without limitation loading of operating system patches to the Licensed Software and/or upgrades to anti-virus software running in connection with the Licensed Software without prior approval by Philips; use or operation of the product other than in accordance with Philips' applicable product specifications and written instructions; abuse, negligence, accident, loss, or damage in transit; improper site preparation; unauthorized maintenance or modifications to the product; or viruses or similar software interference resulting from connection of the product to a network. Philips does not provide a warranty for any third party products furnished to Customer by Philips under the quotation; however, Philips shall use reasonable efforts to extend to Customer the third party warranty for the product. The obligations of Philips described herein and in the applicable product-specific warranty document are Philips' only obligations and Customer's sole and exclusive remedy for a breach of a product warranty.

9.7 THE WARRANTIES SET FORTH HEREIN AND IN PHILIPS' WARRANTY DOCUMENT WITH RESPECT TO A PRODUCT (INCLUDING THE SOFTWARE PROVIDED WITH THE PRODUCT) ARE THE ONLY WARRANTIES MADE BY PHILIPS IN CONNECTION WITH THE PRODUCT, THE SOFTWARE, AND THE TRANSACTIONS CONTEMPLATED BY THE QUOTATION, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, WHETHER WRITTEN, ORAL, STATUTORY, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Philips may use refurbished parts in the manufacture of the products, which are subject to the same quality control procedures and warranties as for new products.

10. **Philips Proprietary Service Materials**.

Any Philips maintenance or service software and documentation provided with the product and/or located at Customer's premises is intended solely to assist Philips and its authorized agents to install and to test the products or to assist Philips and its authorized agents to maintain and to service the products under warranty or a separate support agreement with Customer. Customer agrees to restrict access to such software and documentation to Philips' employees and those of Philips' authorized agents only and to permit Philips to remove its Proprietary Service Materials upon request.

11. **Patent Infringement Claims**.

11.1 Philips shall indemnify, defend, and hold harmless Customer against any new claim that a Philips product provided in the quotation infringes, misappropriates, or violates any third party intellectual property right, whether patent, copyright, trademark, or trade secret, provided that Customer: (a) provides Philips prompt written notice of the claim, (b) grants Philips full and complete information and assistance necessary for Philips to defend, settle, or avoid the claim, and (c) gives Philips sole control of the defense or settlement of the claim.

11.2 The provisions of this section shall not apply if the product is sold or transferred.

11.3 If (a) a Philips product is found or believed by Philips to infringe a valid patent or copyright; or, (b) Customer has been enjoined from using the Philips product pursuant to an injunction issued by a court of competent jurisdiction, Philips may, at its option; (i) procure the right for Customer to use the product; (ii) replace or modify the product to avoid infringement; or, (iii) refund to Customer a portion of the product purchase price upon the return of the original product. Philips shall have no obligation for any claim of infringement arising from: Philips' compliance with Customer's designs, specifications, or instructions; Philips' use of technical information or technology supplied by Customer; modifications to the product by Customer or its agents; use of the product other than in accordance with the product specifications or applicable written product instructions; use of the product with any other product not sold by Philips to customer and the Philips product in and of itself is not infringing; if infringement would have been avoided by the use of a current unaltered release of the products; or use of the Philips Product after Philips has advised Customer, in writing, to stop use of the Philips Product in view of the claimed infringement. The terms in this section state Philips' entire obligation and liability for claims of infringement, and Customer's sole remedy in the event of a claim of infringement.

12. **Limitation of Liability**.

THE TOTAL LIABILITY, IF ANY, OF PHILIPS AND ITS AFFILIATES FOR ALL DAMAGES AND BASED ON ALL CLAIMS, WHETHER ARISING OR RELATING TO BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABITLITY OR OTHER TORT, OR OTHERWISE, ARISING FROM A PRODUCT, LICENSED SOFTWARE, AND/OR SERVICE IS LIMITED TO THE PRICE PAID HEREUNDER FOR THE PRODUCT, LICENSED SOFTWARE, OR SERVICE GIVING RISE TO THE LIABILITY.
THIS LIMITATION SHALL NOT APPLY TO:

(a) THIRD PARTY CLAIMS FOR DIRECT DAMAGES FOR BODILY INJURY OR DEATH TO THE EXTENT CAUSED BY PHILIPS' NEGLIGENCE OR PROVEN PRODUCT DEFECT;

(b) CLAIMS OF TANGIBLE PROPERTY DAMAGE REPRESENTING THE ACTUAL COST TO REPAIR OR REPLACE PHYSICAL PROPERTY TO THE EXTENT CAUSED BY PHILIPS NEGLIGENCE OR PROVEN PRODUCT DEFECT.

(c) OUT OF POCKET COSTS INCURRED BY CUSTOMER TO PROVIDE PATIENT NOTIFICATIONS, REQUIRED BY LAW, TO THE EXTENT SUCH NOTICES ARE CAUSED BY PHILIPS UNAUTHORIZED DISCLOSURE OF PHI; and,
(d) FINES/PENALTIES LEVIED AGAINST CUSTOMER BY GOVERNMENT AGENCIES CITING PHILIPS' UNAUTHORIZED DISCLOSURE OF PHI AS THE BASIS OF THE FINE/PENALTY, ANY SUCH FINES OR PENALTIES SHALL CONSTITUTE DIRECT DAMAGES.

13. **DISCLAIMER**.
IN NO EVENT SHALL PHILIPS OR ITS AFFILIATES BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, BUSINESS INTERRUPTION, LOSS OF DATA, OR THE COST OF SUBSTITUTE PRODUCTS OR SERVICES WHETHER ARISING FROM BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT.

14. **Confidentiality**.
Each party shall maintain as confidential any information furnished or disclosed to one party by the other party, whether disclosed in writing or disclosed orally, relating to the business of the disclosing party, its customers, employees, and/or its patients, and the quotation and its terms, including the pricing terms under which Customer has agreed to purchase the products. Each party shall use the same degree of care to protect the confidentiality of the disclosed information as that party uses to protect the confidentiality of its own information, but in no event less than a reasonable amount of care. Each party shall disclose such confidential information only to its employees having a need to know such information to perform the transactions contemplated by the quotation. The disclosing party maintains exclusive ownership of the confidential information which it discloses to the receiving party, and a receiving party shall be responsible for the breach of these confidentiality terms by any of its representatives or other person to whom it may disclose the confidential information. The obligation to maintain the confidentiality of such information shall not extend to information that (a) is or becomes generally available to the public without violation of these Terms and Conditions of Sale or any other obligation of confidentiality or (b) is lawfully obtained by the receiving Party from a third party without any breach of confidentiality or violation of law. Notwithstanding the foregoing, in the event that the receiving party is required by law to disclose any confidential information to a court, government department/agency or regulatory body, the receiving party may so disclose, provided that it shall, to the extent permitted by applicable law, first inform the disclosing party of the request or requirement for disclosure to allow an opportunity for the disclosing party to apply for an order to prohibit or restrict such disclosure. Moreover, nothing set forth herein shall prohibit Customer from disclosing confidential information required by state or federal open records laws, to the extent disclosed in compliance with the rules and procedures applicable thereto, including notifying Philips and providing Philips an opportunity to argue certain information may be exempt as a trade secret, if applicable thereunder

15. **Compliance with Laws & Privacy**.
15.1 Each party shall comply with all laws, rules, and regulations applicable to the party in connection with the performance of its obligations in connection with the transactions contemplated by the quotation including, but not limited to, those relating to affirmative action, fair employment practices, FDA, Medicare fraud and abuse, and the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"). Health care providers are reminded that if the purchase includes a discount or loan, they must fully and accurately report such discount or loan on cost reports or other applicable claims for payment submitted under any federal or state health care program, including but not limited to Medicare and Medicaid, as required by federal law (see 42 CFR 1001.952[h]).
15.2 In the course of providing project implementation related services and/or warranty services to Customer, hereunder, it may be necessary for Philips to have access to, view and/or download computer files from the products that might contain Personal Data. "Personal Data" means information about an identifiable individual, and includes any information that is "personal information" or "personal health information" within the meaning of any applicable privacy law. Personal Data can include both personal health information (i.e., images, heart monitor data, and medical record number) and non-health information (i.e., date of birth, gender). Philips will process Personal Data only to the extent necessary to perform and/or fulfill its project implementation related service, warranty service and/or warranty obligations hereunder. Customer further acknowledges and agrees that all telephone conversations between Philips and Customer may, in Philips discretion, be recorded.
15.3 It is Customer's responsibility to notify Philips if any portion of the order is funded under the American Reinvestment and Recovery Act ("ARRA"). To ensure compliance with the ARRA regulation, Customer shall include a clause stating that the order is funded under ARRA on its purchase order or other document issued by Customer.
15.4 Product Safety and Other Complaints. Customer will report immediately to Philips any event of which Customer becomes aware that suggests that any services or products provided by Philips, for any reason: (a) may have caused or contributed to a death or serious injury, or (b) have malfunctioned where and such malfunctions would be likely to cause or contribute to a death or serious injury if the malfunction were to occur again. Additionally, Customer will also report to Philips complaints it receives from its personnel and patients or any other person regarding the identity, quality, performance, reliability, safety, effectiveness, labels or instructions for use of the services or products provided by Philips. Philips shall be solely responsible for submitting any filings or reports to any governmental authorities with respect to the Philips products and services provided by Philips hereunder, unless otherwise required by law.

16. **Excluded Provider**.
As of the date of the sale of this product, Philips represents and warrants that Philips, its employees and subcontractors, are not debarred, excluded, suspended or otherwise ineligible to participate in a federal or state health care program, nor have they been convicted of any health care related crime for the products and services provided under these Terms and Conditions of Sale (an "Excluded Provider"). Philips shall promptly notify Customer if it becomes aware that Philips or any of its employees or subcontractors providing services hereunder have become an Excluded Provider under a federal or state healthcare program, whereupon Customer shall provide Philips with a reasonable opportunity to discuss and attempt to resolve in good faith with Customer any Customer related concerns in relation thereto, and/or will give Philips a reasonable opportunity to dispute its, or its employee's or subcontractor's, designation as an Excluded Provider. In the event that the Parties are unable to resolve any such Customer concerns of the applicable party's designation as an Excluded Provider, then Customer may terminate this order by express written notice for products and services not yet shipped or rendered prior to a date of exclusion.

17. **Omnibus Reconciliation Act (OMNI) Social Security (PL96-499, Public Law)**
Philips and Customer shall comply with the Omnibus Reconciliation Act of 1980 (P.L. 96-499) and it's implementing regulations (42 CFR, Part 420). Philips agrees that until the expiration of four (4) years after furnishing services or products pursuant to these Terms and

Conditions of Sale, Philips shall make available, upon written request of the Secretary of the Department of Health and Human Services, or upon request of the Comptroller General, or any of their duly authorized representatives, these Terms and Conditions of Sale and the books, documents and records of Philips that are necessary to verify the nature and extent of the costs charged to Customer hereunder. Philips further agrees that if Philips carries out any of the duties of these Terms and Conditions of Sale through a subcontract with a value or cost of ten-thousand U.S. dollars ($10,000.00) or more over a twelve (12) month period, with a related organization, such subcontract shall contain a clause to the effect that until the expiration of four (4) years after the furnishing of such services pursuant to such subcontract, the related organization shall make available, upon written request to the Secretary, or upon request to the Comptroller General, or any of their duly authorized representatives the subcontract, and books and documents and records of such organization that are necessary to verify the nature and extent of such costs. This paragraph relating to the retention and production of documents is included because of possible application of Section 1861(v) (1) (1) of the Social Security Act (42 U.S.C. 1395x (v) (1) (I) (1989)), as amended from to time to these Terms and Conditions of Sale. If Section 1861(v) (1) (1) should be found to be inapplicable, then this paragraph shall be deemed inoperative and without force and effect.

18. **General Terms**.
The following additional terms shall be applicable to the purchase of a product:
18.1 **Force Majeure**. Each party shall be excused from performing its obligations (except for payment obligations) arising from any delay or default caused by events beyond its reasonable control including, but not limited to, acts of God, acts of third parties, acts of any civil or military authority, fire, floods, war, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, subcontractors or suppliers, voluntary or mandatory compliance with any government act, regulation or mandatory direction, request, shortage of labor, materials or manufacturing facilities.
For clarity, Customer requests shall not be considered 'government' requests under this section 18.1.
18.2 **Bankruptcy**. If Customer becomes insolvent, is unable to pay its debts when due, files for bankruptcy, is the subject of involuntary bankruptcy, has a receiver appointed, or has its assets assigned, Philips may cancel any unfulfilled obligations, or suspend performance; however, Customer's financial obligations to Philips shall remain in effect.
18.3 **Assignment**. Customer may not assign any rights or obligations in connection with the transactions contemplated by the quotation without the prior written consent of Philips, which consent shall not be unreasonably withheld, and any attempted assignment without such consent shall be of no force or effect.
18.4 **Export Controls**. Customer shall assume sole responsibility for obtaining any required export authorizations in connection with Customer's export of the products from the country of delivery.
18.5 **Governing Law**. All transactions contemplated by the quotation shall be governed by the laws of the state where the equipment will be installed, without regard to that state's choice of law principles, and expressly excluding application of the Uniform Computer Information Transactions Act ("UCITA"), in any form. EACH PARTY, KNOWINGLY AND AFTER CONSULTATION WITH COUNSEL, FOR ITSELF, ITS SUCCESSSORS' AND ASSIGNS, WAIVES ALL RIGHT TO TRIAL BY JURY OF ANY CLAIM ARISING WITH RESPECT TO THIS AGREEMENT OR ANY MATTER RELATED IN ANY WAY THERETO.
18.6 **Entire Agreement**. These Terms and Conditions of Sale, the terms and conditions set forth in the quotation and the applicable Philips' product-specific warranty constitute the entire understanding and agreement by and between the parties with respect to the transactions contemplated by the quotation, and supersede any previous understandings or agreements between the parties, whether written or oral, regarding the transactions contemplated by the quotation. The pricing in the quotation is based upon the terms and conditions in the quotation. No additional terms, conditions, consents, waivers, alterations, or modifications shall be binding unless in writing and signed by the parties. Customer's additional or different terms and conditions, whether stated in a purchase order or other document issued by Customer, are specifically rejected and shall not apply to the transactions contemplated by the quotation.
18.7 **Headings**. The headings in the quotation are intended for convenience only and shall not be used to interpret the quotation.
18.8 **Severability**. If any provision of the quotation is deemed to be illegal, unenforceable, or invalid, in whole or in part, the validity and enforceability of the remaining provisions shall not be affected or impaired, and shall continue in full force and effect.
18.9 **Notices**. Notices or other communications shall be in writing, and shall be deemed served if delivered personally, or if sent by facsimile transmission, by overnight mail or courier, or by certified mail, return receipt requested and addressed to the party at the address set forth in the quotation.
18.10 **Performance**. The failure of Customer or of Philips at any time to require the performance of any obligation will not affect the right to require such performance at any time thereafter. Course of dealing, course of performance, course of conduct, prior dealings, usage of trade, community standards, industry standards, and customary standards and customary practice or interpretation in matters involving the sale, delivery, installation, use, or service of similar or dissimilar products or services shall not serve as references in interpreting the terms and conditions of the quotation.
18.11 **Obligations.** Customer's obligations are independent of any other obligations the Customer may have under any other agreement, contract, or account with Philips. Customer will not exercise any right of offset in connection with the terms and conditions in the quotation or in connection with any other agreement, contract, or account with Philips.
18.12 **Additional Terms.** The Product Specific Schedules listed below are incorporated herein as they apply to the equipment listed in the quotation and their additional terms shall apply solely to Customer's purchase of the products specified therein. If any terms set forth in a Product Specific Schedule conflict with terms set forth in these Terms and Conditions of Sale, the terms set forth in the schedule shall govern.
(a) Schedule 1: Imaging Systems Portfolio (IS) ("Product Specific Schedules").

1. License Grant

1.1 Subject to any usage limitations for the Licensed Software set forth on the product description of the quotation, Philips grants to Customer a nonexclusive and non-transferable right and license to use the computer software package ("Licensed Software") in accordance with the terms of the quotation and these Terms and Conditions of Sale. The License shall continue for as long as Customer continues to own the product, except that Philips may terminate the License if Customer is in breach or default of these Terms and Conditions of Sale and/or the quotation. Customer shall return the Licensed Software and any authorized copies thereof to Philips immediately upon expiration or termination of this License.

1.2 The License does not include any right to use the Licensed Software for purposes other than the operation of the product. Customer may make one copy of the Licensed Software in machine-readable form solely for backup purposes. Philips reserves the right to charge for backup copies created by Philips. Except as otherwise provided under section 1.6, Customer may not copy, reproduce, sell, assign, transfer, or sublicense the Licensed Software for any purpose without the prior written consent of Philips. Customer shall reproduce Philips' copyright notice or other identifying legends on such copies or reproductions. Customer will not (and will not allow any third party to) decompile, disassemble, or otherwise reverse engineer or attempt to reconstruct or discover the product or Licensed Software by any means whatsoever.

1.3 The License shall not affect the exclusive ownership by Philips of the Licensed Software or of any trademarks, copyrights, patents, trade secrets, or other intellectual property rights of Philips (or any of Philips' suppliers) relating to the Licensed Software.

1.4 Customer agrees that only authorized officers, employees, and agents of Customer will use the Licensed Software or have access to the Licensed Software (or to any part thereof), and that none of Customer's officers, employees, or agents will disclose the Licensed Software, or any portion thereof, or permit the Licensed Software, or any portion thereof, to be used by any person or entity other than those entities identified on the quotation. Customer acknowledges that certain of Philips' rights may be derived from license agreements with third parties, and Customer agrees to preserve the confidentiality of information provided by Philips under such third party license agreements.

1.5 The Licensed Software shall be used only on the product(s) referenced in the quotation.

1.6 Customer may transfer the Licensed Software in connection with sale of the product to a healthcare provider who accepts all of the terms and conditions of this License; provided that Customer is not in breach or default of this License, the Terms and Conditions of Sale, or any payment obligation to Philips.

2. Modifications.

2.1 If Customer modifies the Licensed Software in any manner, all warranties associated with the Licensed Software and the products shall become null and void. This does not apply to patches or software updates provided by or delivered from Philips to Customer. If Customer or any of its officers, employees, or agents should devise any revisions, enhancements, additions, modifications, or improvements in the Licensed Software, Customer shall disclose them to Philips, and Philips shall have a non-exclusive royalty-free license to use and to sub-license them.

2.2 The Licensed Software is licensed to Customer on the basis that (i) Customer shall maintain the configuration of the products as they were originally designed and manufactured and (ii) the product includes only those subsystems and components certified by Philips. The Licensed Software may not perform as intended on systems modified by other than Philips or its authorized agents, or on systems which include subsystems or components not certified by Philips. Philips does not assume any responsibility or liability with respect to unauthorized modification or substitution of subsystems or components.

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Imaging Systems Portfolio (IS)
Schedule 1

Interventional X-Ray (iXR), Mobile C-Arms (Surg), Volcano (IGT Devices), IntelliSpace Portal (ISP), Digital X-Ray (DXR), Computed Tomography (CT), Magnetic Resonance (MR), Invivo Coils, Positron Emission Tomography (PET/CT), Advanced Molecular Imaging (SPECT & SPECT/CT) and Radiation Oncology (PROS)

1. Payment Terms.
Unless otherwise specified in the quotation, Philips will invoice Customer and Customer will pay such invoice based on the date of the invoice for each product as follows:
1.1 For Imaging Systems Portfolio
(a) 10% of the purchase price shall be due with Customer's submission of its purchase order.
(b) 70% of the purchase price shall be due on delivery of the major components of the product. Product installation will not begin until Customer has paid this portion of the purchase price.
(c) 20% of the purchase price shall be invoiced the date the product is available for first patient use. Available for first patient use means the product has been installed and substantially meets Philips' published specifications.
(d) Payment is due net thirty (30) days from Philips' invoice date.
1.2 If the start of the installation is delayed for any reason beyond the control of Philips for more than thirty (30) days following the date that Philips notifies Customer that the major components of the product are available for delivery, the unpaid portion of the purchase price shall be due on the thirty-first (31st) day following such date.

2. Cancellation. The quotation is subject to change or withdrawal prior to written acceptance by Customer. All purchase orders issued by Customer are subject to acceptance by Philips. If Customer cancels an order prior to product shipment, Customer shall pay a cancellation charge of fifteen percent (15%) of the net order price. Orders are non-cancellable for Products shipped.

3. Delivery.
3.1 Philips will use reasonable efforts to ship the product to the Customer (a) by the mutually agreed upon shipment date; or (b) by the date stated in the quotation; or (c) as otherwise agreed in writing. Philips will ship the Product according to Philips' standard commercial practices. Philips will deliver the equipment during normal working hours, 8:00 - 5:00 PM, in the time zone where the Customer is located. Philips may make partial shipments. Philips will pay shipping costs associated with Product shipment.
3.2 Prior to the shipment of any Product, Philips may change the construction or the design of the Product without notice to the Customer so long as the function, footprint, and performance of the product are not substantially altered.
3.3 If Customer requests a delay in the date major components of the Product are available for delivery, then Philips will place the Product in storage and the unpaid portion of the purchase price shall be due. Customer will reimburse Philips for all storage fees, transportation expenses, and related costs incurred by Philips from date of invoice.

4. Additional Customer Installation Obligations for Magnetic Resonance.
4.1 Customer shall provide any and all site preparation and shall be in compliance with all RF or magnetic shielding and acoustical suppression and building codes relevant to the Product and its installation and use.
4.2 Customer's contractor or Customer's architect is required to provide detailed information on the proposed Helium Exhaust Pipe for their MRI system prior to installation to ensure safety specifications are being met.
Required Details include:
(a) Architectural drawing or sketch with complete dimensions including lengths, bending radii, bending angles, and pipe diameters for entire Helium Exhaust Pipe run from RF enclosure to discharge location.
(b) Completed Helium Exhaust Pipe Verification Checklist (Provided by Local Philips Project Manager)
(c) Picture showing the area where the Helium Exhaust Pipe will discharge.
4.3 Magnets will not be released for delivery unless and until Helium Exhaust Pipe details are provided for verification and have been confirmed to meet all life safety specifications.
4.4 Costs of equipment preservation, to ensure a high quality system, will be passed to the Customer if the installation site is not ready due to delays not caused by Philips. Additionally, climate control costs during and after equipment installation are also the responsibility of the Customer. Preservation of equipment is required to prevent exposing equipment to the negative effects of a non-climate controlled construction environment, where there is dust or high humidity. Climate control could include costs associated with ensuring a climate controlled environment. Activities and expenses required for preservation may include time, materials, and transportation to package and seal, and transport the equipment to a controlled environment to prevent dust from entering the equipment. For MR this includes the consumption of Helium for life support.

5. Additional Terms Related to Sales of the IntelliSpace Breast Solution.
5.1 **Installation.** Philips will install the IntelliSpace Breast Solution and perform installation tests on the application running with the hardware provided as part of the solution. Philips will also configures and provides interfaces to the equipment and information systems set forth in a statement of work signed by Philips and the Customer. Interfaces as set forth in Subsection 5.2 below are Customer's responsibility and are not part of Parts installation deliverables.
5.2 **Customer's Interface Obligations for Third Party RIS and MIS Applications**. Customer is responsible to develop and implement interfaces from the Licensed Software running on the client workstation to any third party Radiology Information System ("RIS") or Mammography Information System ("MIS") or to contract with the RIS and/or MIS vendor to have them perform these interface obligations on Customer's behalf. Interfacing the solution from the solutions server is not permitted. Philips shall provide Customer an API toolkit for the Licensed Software to aide Customer to perform such interface tasks. The successful and reasonably timely completion of these projects takes good faith efforts on the part of both Philips and Customer, especially when Customer has third party interfaces to develop and implement. A project implementation plan will be developed by Philips and the Customer based on completion dates mutually agreed by the parties that should be reflective of the obligations of both parties. These dates will be entered into the project implementation plan for this solution (the "Project Implementation Plan"). In the event Customer has not fulfilled its interface obligations by the dates set forth in the Project Implementation Plan, Customer will sign Philips' acceptance (MDIR) document for the Philips deliverables sold and pay the final payment described in Subsection 1.1(c), provided that Philips has installed the Philips deliverables

and provided the interfaces Philips is responsible for pursuant to Subsection 5.1, and that the Philips deliverables substantially meet Philips' published specifications.

5.3 **Prior Validation of Operating System Updates and/or Upgrades**. Patches introduced by operating system original equipment manufacturers (an "oem") or upgrades to anti-virus software can impact the performance and functionality of the applications that run on them and affect patient safety. Philips shall perform validation testing of certain Microsoft operating systems and McAfee anti-virus software during the warranty period. Philips shall have no obligation to validate any other third party operating system or anti-virus software. Customer shall not install or use (a) operating system patches, updates or upgrades; (b) anti-virus updates (except to the DAT files, i.e., virus definitions); or, (c) upgrades to anti-virus search engines, collectively (a) (b) prior to validation testing and approval by Philips ("Unauthorized Updates"). Philips shall have no liability, including, without limitation, for warranty claims, arising from use of the Licensed Software with Unauthorized Updates. In the event Philips discovers that Customer is using an Unauthorized Update with the Licensed Software, Philips shall have the right to require Customer to roll back to the most recently validated versions of operating systems and anti-virus, prior to performing any support.

5.4 **Customer's Network Connectivity Obligations**. Customer must have network connectivity between the IntelliSpace Breast solution server, the client workstation, and the optional DynaCAD server of not less than 1GB/s, and all three systems must be on the same subnet. A connection of no less than 100 MB/s is required between the IntelliSpace Breast solution and the hospital network. However for optimal performance a 1GB/s network between the IntelliSpace Breast and the hospital network is recommended.

5.5 **RSN Warranty Condition Requirement**. As a condition to receiving warranty service on this solution, Customer agrees it shall use Philips Remote Service Network ("RSN") service to enable Philips to access the system to perform its support obligations.

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PHILIPS PRODUCT WARRANTY

CARDIOVASCULAR SYSTEMS (CV)

This product warranty document is an addition to the terms and conditions set forth in the quotation to which this warranty document is attached. Unless specifically listed below, this warranty does not apply to replacement parts. The terms and conditions of the quotation are incorporated into this warranty document. The capitalized terms herein have the same meaning as set forth in the quotation.

1. Twelve (12) Month System Warranty

1.1 Philips Healthcare a division of Philips North America LLC ("Philips") warrants to Customer that the Philips Cardio Vascular Systems ("System") will perform in substantial compliance with its performance specifications, in the documentation accompanying the System, for a period of twelve (12) months after completion of installation or availability for first patient use, whichever occurs first.

1.2 Any glassware or flat detectors provided with the System is subject to special warranty terms set forth below.

2. Planned Maintenance.

2.1 During the warranty period, Philips service personnel will schedule planned maintenance visits, in advance, at a mutually agreeable time on weekdays, between 8:00 A.M. and 5:00 P.M. local time, excluding Philips observed holidays.

3. System Options, Upgrades or Accessories.

3.1 Any Philips authorized options, upgrades, or accessories for the System which are delivered and/or installed on the System during the original term of the System warranty shall be subject to the same warranty terms contained in the first paragraph of this warranty, except that such warranty shall expire on the later of: (a) upon termination of the initial twelve (12) month warranty period for the System on which the option or accessory is installed, b) after ninety (90) days for parts only from the date of installation.

4. MRC X-ray TUBES

4.1 Philips warrants to Customer, for the warranty periods further specified in this section, that the Philips X-Ray tube will be substantially free from defects in material and manufacturing workmanship, which impair performance under normal use as specified in Philips System descriptions and specifications.

4.2 The warranty period for MRC tubes provided with Customer's purchase of a new or refurbished X-ray system shall be the shorter of thirty-six (36) months after installation or thirty-eight (38) months after date of shipment from Philips.

4.3 The warranty period for purchases of replacement tubes shall be the shorter of twelve (12) months after installation or fourteen (14) months after date of shipment from Philips.

5. MRC Tube Warranty Exclusion

5.1 The above warranty shall not apply to X-ray tubes outside the United States and Canada.

5.2 Philips obligations under the System warranty do not apply to any System defects resulting from: improper or inadequate maintenance or calibration by Customer or its agents; Customer or third party supplied software, interfaces, or supplies; use or operation of the System other than in accordance with loss, or damage in transit; improper site preparation; unauthorized maintenance or Philips applicable System specifications and written instructions; abuse, negligence, accident, modifications to the System; or, to viruses or similar software interference resulting from the connection of the System to a network.

6. MRC Tube Warranty Remedies

6.1 If a tube is found to fail during the warranty period, and if, in the best judgment of Philips, the failure is not due to neglect, accident, improper installation, use contrary to instructions, or the exclusions stated above, Philips tube warranty liability hereunder is limited to, at Philips option, the repair or replacement of the tube.

6.2 Any replacement tube would have a warranty period equal to the balance of the warranty period left on the tube replaced.

7. Dynamic Flat Detectors

7.1 Philips warrants the flat detectors provided with the System, if any, will be free from defects in material and manufacturing workmanship for twelve (12) months.

7.2 Claims must be made within twelve (12) months after installation or fifteen (15) months after date of shipment from Philips, whichever occurs first.

7.3 If a detector fails to meet this warranty, as Customer's sole and exclusive remedy, upon return of the detector, Philips will provide Customer a replacement detector at no additional charge.

8. System Software and Software Updates

8.1 The software provided with the System will be the latest version of the standard software available for that System as of the ninetieth (90th) day prior to the date the System is delivered to Customer.

8.2 Updates to standard software for the System that do not require additional hardware or equipment modifications will be performed as a part of normal warranty service during the term of the warranty.

8.3 All software is and shall remain the sole property of Philips or its software suppliers.

8.4 Use of the software is subject to the terms of a separate software license agreement. Customer must sign all such license agreements prior to or upon the delivery of the product.

8.5 No license or other right is granted to Customer or to any other party to use the software except as set forth in the license agreements.

8.6 Any Philips maintenance or service software and documentation provided with the System and/or located at Customer's premises is intended solely to assist Philips and its authorized agents to install and to test the System, to assist Philips and its authorized agents to maintain and to service the System under a separate support agreement with Customer, or to permit Customer to maintain and service the System.

8.7 Customer agrees to restrict the access to such software and documentation to Philips employees, those of its authorized agents, and to authorized employees of Customer only.

9. Warranty Limitations

9.1 Philips sole obligations and Customer's exclusive remedy under any product warranty are limited, at Philips option, to the repair or the replacement of the product or a portion thereof, within thirty (30) days after receipt of written notice of such material breach from Customer ("Product Warranty Cure Period") or, upon expiration of the Product Warranty Cure Period, to a refund of a portion of the purchase price paid by the Customer upon Customer's request.

9.2 Any refund will be paid, to the Customer when the product is returned to Philips.

9.3 Warranty service outside of normal working hours (i.e 8:00 AM to 5:00 PM, Monday through Friday, excluding Philips Observed holidays), will be subject to payment by Customer at Philips standard service rates.

9.4 This warranty is subject to the following conditions: the product (a) is to be installed by authorized Philips representitives (or is to be installed in accordance with all Philips installation instructions by personnel trained by Philips); (b) is to be operated exclusively by duly qualified personnel in a safe and reasonable manner in accordance with Philips written instructions and for the purpose for which the products were intended; and (c) is to be maintained and in strict compliance with all reccommended and scheduled maintenance instructions provided with the Product.

9.5 Philips' obligations under any product warranty do not apply to any product defects resulting from: improper or inadequate maintenance or calibration by the Customer or its agents; Customer or third party supplied interfaces, supplies, or software including without limitation loading of operating system patches to the Licensed Software and/or upgrades to anti-virus software running in connection with the Licensed Software without prior approval by Philips; use or operation of the product other than in accordance Philips' applicable product specifications and written instructions; abuse, negligence, accident, loss, or damage in transit; improper site perparation; unauthorized maintenance or modifications to the product; or, viruses or similar software interference resulting from connection of the product to a network.

9.6 Philips does not provide a warranty for any third party products furnished to Customer by Philips under this quotation; however, Philips shall use reasonable efforts to extend to Customer the third party warranty for the product.

9.7 The obligations of Philips described herein and in the applicable product-specific warranty document are Philips only obligations and Customer's sole and exclusive remedy for a breach of a warranty.

9.8 THE WARRANTIES SET FORTH HEREIN AND IN PHILIPS WARRANTY DOCUMENT WITH RESPECT TO A PRODUCT (INCLUDING THE SOFTWARE PROVIDED WITH THE PRODUCT) ARE THE ONLY WARRANTIES MADE BY PHILIPS IN CONNECTION WITH THE PRODUCT, THE SOFTWARE, AND THE TRANSACTIONS CONTEMPLATED BY THE QUOTATION, AND ARE EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, WHETHER WRITTEN, ORAL, STATUTORY, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF NON-INFRINGEMENT MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

9.9 Philips may use refurbished parts in the manufacture of the products, which are subject to the same quality control procedures and warranties as for new parts.

10. Remote Services Network ("RSN").

10.1 Customer will (a) provide Philips with a secure location at Customer's premises to store one Philips remote services network router and provide full and free access to this router, (or a Customer-owned router acceptable to Philips) for connection to the equipment and to Customer's network; or (b) provide Philips with outbound internet access over SSL; at all times during the warranty period provide full and free access to the equipment and the Customer network for Philips use in remote servicing of the product, remote assistance to personnel that operate the products, updating the product and regular uploading of products data files (such as but not limited to error logs and utilization data for improvement of Philips products and services and aggregation into services).

10.2 Customer's failure to provide such access will constitute Customer's waiver of the scheduled planned maintenance service and will void support or warranty coverage of product malfunctions until such time as planned maintenance service is completed or RSN access is provided.

10.3 Customer agrees to pay Philips at the prevailing demand service rates for all time spent by Philips service personnel waiting for extended coverage.

11. Transfer of System

11.1 In the event Customer transfers or relocates the System, all obligations under this warranty will terminate unless Customer receives the prior written consent of Philips for the transfer or relocation.

11.2 Upon any transfer or relocation, the System must be inspected and certified by Philips as being free from all defects in material, software and workmanship and as being in compliance with all technical and performance specifications.

11.3 Customer will compensate Philips for these services at the prevailing service rates in effect as of the date the inspection is performed.

11.4 Any System which is transported intact to pre-approved locations and is maintained as originally installed in mobile configurations will remain covered by this warranty.

12. Limitation of Liability

12.1 THE TOTAL LIABILITY, IF ANY, OF PHILIPS AND ITS AFFILIATES FOR ALL DAMAGES AND BASED ON ALL CLAIMS, WHETHER ARISING OR RELATING TO FROM BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT, OR OTHERWISE, ARISING FROM A PRODUCT, LICENSED SOFTWARE, AND/OR SERVICE IS LIMITED TO THE PRICE PAID HEREUNDER FOR THE PRODUCT, LICENSED SOFTWARE, OR SERVICE GIVING RISE TO THE LIABILITY.

12.2 THIS LIMITATION SHALL NOT APPLY TO:

(a) THIRD PARTY CLAIMS FOR DIRECT DAMAGES FOR BODILY INJURY OR DEATH TO THE EXTENT CAUSED BY PHILIPS NEGLIGENCE OR PROVEN PRODUCT DEFECT.

(b) CLAIMS OF TANGIBLE PROPERTY DAMAGE REPRESENTING THE ACTUAL COST TO REPAIR OR REPLACE PHYSICAL PROPERTY TO THE EXTENT CAUSED BY PHILIPS NEGLIGENCE OR PROVEN PRODUCT DEFECT;

(c) OUT OF POCKET COSTS INCURRED BY CUSTOMER TO PROVIDE PATIENT NOTIFICATIONS, REQUIRED BY LAW, TO THE EXTENT SUCH NOTICES ARE CAUSED BY PHILIPS UNAUTHORIZED DISCLOSURE OF PHI; and;

(d) FINES/PENALTIES LEVIED AGAINST CUSTOMER BY GOVERNMENT AGENCIES CITING PHILIPS UNAUTHORIZED DISCLOSURE OF PHI AS THE BASIS OF THE FINE/PENALTY, ANY SUCH FINES OR PENALTIES SHALL CONSTITUTE DIRECT DAMAGES,

13. Disclaimer

13.1 IN NO EVENT SHALL PHILIPS OR ITS AFFILIATES BE LIABLE FOR ANY INDIRECT, PUNITIVE, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR PROFITS, BUSINESS INTERRUPTION, LOSS OF DATA OR THE COST OF SUBSTITUTE PRODUCTS OR SERVICES WHETHER ARISING FROM BREACH CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHER TORT.

14. FORCE MAJEURE

14.1 Philips and Customer shall each be excused from performing its obligations arising from any delay or default caused by events beyond its reasonable control including, but not limited to: acts of God, acts of third parties, acts of the other party, acts of any civil or military authority, fire, floods, war, embargoes, labor disputes, acts of sabotage, riots, accidents, delays of carriers, subcontractors or suppliers, voluntary or mandatory compliance with any government act, regulation or request, shortage of labor, materials or manufacturing facilities.

Philips system specifications are subject to change without notice