GMI GENERAL MEDICAL ITALIA’s choice of strategy: to consider and manage what for other companies is still a market niche, and turn it into a true company mission by giving it global and complete attention.

The high-tech X-Ray market is usually presided over by large groups and important multinationals, their strength being in the brand; on the other hand, a company like GMI, which uses very high level technology, must constantly prove the quality and reliability of the products, solutions and systems that it designs and proposes.

GMI’s winning formula has always been constant technological innovation, together with great attention and respect for tradition: placing the most advanced technology at the service of its customers, and not only guaranteeing the continuity of its products, but their constant update as well.

Regular investment in an internal R&D laboratory, the combination of undisputed skills acquired in the field and cooperation with the most prestigious Italian universities, is even clearer evidence of GMI’s innovative and sophisticated technological tradition, an excellent example of “Italian Research and Industry” and the “made in Italy” slogan in the world.

Tradition:
General Medical Italia is an Italian Company specialized in the design and manufacture of X-ray equipment. Our qualified staff, with long-term experience in the field of X-ray imaging, ensures state of the art products at competitive prices.

Flexibility:
Carefully studied strategies allow GMI to offer a complete and flexible range of products able to satisfy any Client’s need, even the most specific ones.

Innovation:
The activity of the R&D department, always alert on new technologies and in close cooperation with renowned “Centres of Excellence” is the key to innovative and efficient solutions.

Service:
Extreme care and attention towards the necessities of our clients ensure a high level of after sales service.

Quality:
GMI is fully compliant with the required business models and quality standards; our target being maximum customer satisfaction at all times.
ALPHA EVO is the new RF system from GMII, designed according to the state-of-the-art technological standards of last generation, it allows to replace the spot film device with the static flat panel that can make directly digital X-ray images avoiding intermediate steps. Fluoroscopic images, acquired through Image Intensifier and CCD camera, are digitalized for a better displaying. This system has been developed to operate in a coordinate and integrated way with several radiological systems. In particular, the configurations of the remote controllerable ALPHA EVO series are intentionally designed to take advantage of its potentialities and to ensure the operator the maximum freedom of choice of the projections considered as the most suitable for the radiological examination.

ALPHA EVO represents an innovative system thanks to several factors, like:
- compact dimensions provided by only one vertical upright where there is also the electronic frame;
- separate moving between Image Intensifier and flat panel holder;
- precision of the movements assured by an electronic configuration completely automated;
- FFD up to 195 cm assuring the possibility to perform even chest examinations of patients with a high body mass index;
- only one console for movement management and for images acquisition;
- improved workflow thanks to DeluxeEvo acquisition software that provides directly digital fluoroscopic and radiographic images.
<table>
<thead>
<tr>
<th><strong>Tavolo portapaziente / TableTop</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Angolo di ribaltamento / Tilting angle</strong></td>
<td>± 90°</td>
<td></td>
</tr>
<tr>
<td><strong>Dimensioni / Dimensions</strong></td>
<td>2100 mm x 850 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Altezza minima del piano del tavolo / Min table top height</strong></td>
<td>700 mm (according to the size of the I.I.)</td>
<td>600 mm</td>
</tr>
<tr>
<td><strong>Spostamento laterale / Lateral displacement</strong></td>
<td>+/-150 mm</td>
<td></td>
</tr>
<tr>
<td><strong>Spostamento longitudinale / Longitudinal displacement</strong></td>
<td>+600 / -400 mm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Gruppo radiogeno e colonna / Tube Stand</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Distanza fuoco-film / Focus-film distance</strong></td>
<td>da 105 cm a 195 cm / from 105 cm to 195 cm</td>
<td></td>
</tr>
<tr>
<td><strong>Rotezione del tubo / Tube rotation</strong></td>
<td>+180° / -180°</td>
<td></td>
</tr>
<tr>
<td><strong>Spostamento longitudinale / Longitudinal displacement</strong></td>
<td>170 cm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Tomografia / Tomography</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tipologia / Type</strong></td>
<td>elettronica per qualsiasi posizione del tavolo / electronic for any positions of the table</td>
<td></td>
</tr>
<tr>
<td><strong>Angoli di tomografia / Tomography angles</strong></td>
<td>fino a 6 angoli / up to 6 angles</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sistema di acquisizione / Acquisition system</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modalità di acquisizione / Type</strong></td>
<td>Telecamera CCD + flat panel detector statico / CCD camera + static flat panel detector</td>
<td>Flat panel detector dinamico / Dynamic flat panel detector</td>
</tr>
<tr>
<td><strong>Flat panel / Flat panel type</strong></td>
<td>PaxScan® 4343R</td>
<td>PaxScan® 4343CB</td>
</tr>
<tr>
<td><strong>Tipo di conversione / Conversion type</strong></td>
<td>Indiretta (a-Si TFT, DRZ+)* / Indirect (a-Si TFT, DRZ+)*</td>
<td>Integrale a colonne CSI:TI / Integral columnar CSI:TI</td>
</tr>
<tr>
<td><strong>Area sensibile / Sensitive area</strong></td>
<td>4270 x 4270 mm</td>
<td>4270 x 4270 mm</td>
</tr>
<tr>
<td><strong>Matrice di pixel / Pixel area</strong></td>
<td>3072 x 3072 pixel</td>
<td>3072 x 3072 pixel</td>
</tr>
<tr>
<td><strong>Dimensione del pixel / Pixel size</strong></td>
<td>139 μm</td>
<td>139 μm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Opzioni / Options</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flat Panel PaxScan® 4343R CSI</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Angiografia digitale sottrattiva / DSA</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Digital radiographic system for general radiographic examinations, flexible and versatile to meet all radiologists' needs.

Gamma 1C plus consists of:

- Ceiling suspended tube with motorized movements managed by an incorporated touch panel.
- Stand bucky for housing large area flat panel detector (43x43 cm) delivering high quality image with very low dose.
- The Bucky can switch from standing horizontal to vertical position with motorized movement to perform a wide range of radiographic examinations.
- Movable motorized elevating stretcher with floating radio transparent table top that reaches minimum distance from the floor allowing an easy positioning of the patient.
- Only one console for managing the acquisition and processing of images and handling of the machine.
- System fully integrable in an existing RIS/PACS system.
- Integrated high frequency generator.

<table>
<thead>
<tr>
<th>Ceiling suspension tube movements</th>
<th>Stretcher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longitudinal travel: 2300 mm</td>
<td>Longitudinal travel: 450 mm</td>
</tr>
<tr>
<td>Transversal travel: 1350 mm</td>
<td>Transversal travel: ± 225 mm</td>
</tr>
<tr>
<td>Vertical travel: 1200 mm</td>
<td>Vertical run: 390 mm (560 – 970 mm)</td>
</tr>
<tr>
<td>Hor. Axis tube rotation: ± 110°</td>
<td>Safety systems</td>
</tr>
<tr>
<td>Vert. axis tube rotation: ± 110°</td>
<td>Features</td>
</tr>
<tr>
<td>Stand Bucky movements</td>
<td>- Storable positions for most frequently performed examinations:</td>
</tr>
<tr>
<td>Vertical travel: 1200 mm</td>
<td>- Auto-positioning in preset positions for both Bucky and tube:</td>
</tr>
<tr>
<td>Bucky rotation: ± 90°</td>
<td>- Auto-tracking mode with the tube following detector vertical movement.</td>
</tr>
</tbody>
</table>

Touch panel PC for the movements of the system

Console for the acquisition and processing of the images

Digital image processed with Deluxe Dr software
The TAU F/R PLUS is a highly optimized mobile C-arm unit for Fluoroscopy and Radiography surgery applications. The optimization is the pursuit of the best compromise within the peculiar features of such an instrument. It is composed of a monoblock HF generator, an X-ray tube with fixed or rotating anode, an image intensifier of different sizes, a high performance digital memory and a monitor trolley for its management.

The large achievable distance of the SID axis from the unit’s stand, the noticeable motorized column elevation, reaching 500 mm, the wide C-arm’s insertion and span spaces, the ergonomic rotating keyboard, enable the best operational flexibility and the complete freedom of movement.

The Digital Imaging System is located into the monitor trolley. The latter is easily separable from the main C-arm, by means of a simple connector and, once disconnected from the main stand, it can be taken outside of the operating room, enabling the reviewing of all the recorder sequences and the performing of further post-processing procedures.

**TAU Configurations**

<table>
<thead>
<tr>
<th>GENERATOR</th>
<th>TAU F PLUS - 9”</th>
<th>TAU R PLUS - 9”</th>
<th>TAU R PLUS - 12”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generator</td>
<td>3.5 kw 110 kvp</td>
<td>5 kw 120 kvp</td>
<td>5 kw 120 kvp</td>
</tr>
<tr>
<td>X-Ray Tube</td>
<td>Fixed anode Foci 0.5/1.5 mm</td>
<td>Rotating anode Foci 0.3/0.6 mm</td>
<td>Rotating anode Foci 0.3/0.6 mm</td>
</tr>
<tr>
<td>LI</td>
<td>Triple field 9” - 6” - 4”</td>
<td>Triple field 9” - 6” - 4”</td>
<td>Triple field 12” - 9” - 6”</td>
</tr>
<tr>
<td>Collimator</td>
<td>Motorized with Iris</td>
<td>Motorized with Iris + Shutters</td>
<td>Motorized with Iris + Parallel Shutters</td>
</tr>
<tr>
<td>Digital Memory + CCD Camera</td>
<td>TM330 + 0.5K</td>
<td>TM330 + 0.5K</td>
<td>TM1000 + 1K</td>
</tr>
<tr>
<td></td>
<td>TM2000 + 0.5K</td>
<td>TM2000 + 0.5K</td>
<td>TM2000 + 1K</td>
</tr>
<tr>
<td></td>
<td>TM3000 + 0.5K</td>
<td>TM3000 + 0.5K</td>
<td>TM2000 + 1K</td>
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<td></td>
<td>TM1000 + 1K</td>
<td>TM1000 + 1K</td>
<td>TM1000 + 1K</td>
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<tr>
<td></td>
<td>TM2000 + 1K</td>
<td>TM2000 + 1K</td>
<td>TM2000 + 1K</td>
</tr>
</tbody>
</table>
PI is a portable X-ray system aimed at fulfilling a wide range of clinical applications. The compactness and maneuverability of the unit enable the operator to navigate through obstacles such as doors, small rooms, narrow aisles and lifts with ease and allows accurate positioning between patient beds. The ergonomic design of the unit allows the operator excellent visibility during operation and movement. Moreover, the perfectly balanced monobloc arm allows free movement and positioning even in the more awkward positions. The position and shape of the four anisotropic wheels make the system easy to move even on coarse surfaces.

- Reduction of 50% of dose (LD)
- Exposure control: constant kV and mA during the whole exposure
- Generator power in DC current: 30 kW@100 kV
- X-ray tube with rotating anode: 18 kW small focus (0.8 mm) and 32 kW large focus (1.3 mm)
- Manual collimator with internal light source and square field.
- Control panel through microprocessor with LCD display
- 2 points technique with kV and mAs setting
- 24 exam memory available in the 6 different selectable languages

PI Mobile is also available in a digital version that has a digital image acquisition system in radiographic mode. The latter uses a portable flat panel detector of standard dimensions (14”x17”). The acquired images are saved in the memory of the system, displayed on a high-resolution monitor and eventually sent to a diagnostic workstation or to a general archive through DICOM protocol. The unit provides the specialization of the acquisition, process images and generator parameters according to both the selected anatomic part and patient size. This allows a correct and immediate acquisition and display of the images avoiding subsequent further operations. Moreover, post-processing operations are available in order to improve the images and facilitate their management. The unit is fitted with three systems for images printing and archiving: direct print, archive on CD with DICOM format and DICOM network connection.

- Easy maneuverable digital unit for fast bedside imaging
- Reduction at 50% of dose (LD)
- Flat panel detector (36x43cm), technology (GadOx or Cs) for high quality images and immediate exams review
- X-ray tube with rotating anode and double focus for multipurpose application: small (0.8 mm) and large (1.3 mm)
- Anatomical programs
- Fuji DICOM 3.0 connectivity and WLAN
- 19” touch screen user interface
- UPS version for exams review when the unit is not connected to the mains
IOTA Ceiling suspension

The IOTA P ceiling suspension is an air suspension foreseen to support and move a x-ray group (X-Ray tube and Collimator) that has been developed to work in a coordinated and integrated way with other radiological systems to compose a conventional radiological system for clinical examinations. The Ceiling Suspension is intentionally designed to exploit its potentialities and ensure the operator the maximum freedom of choice of the projections considered the most suitable ones for the X-ray examination. Actually it allows to make 5 types of movements permitting any type of X-ray examination both of the chest, the abdomen and skeletal segments.

Technical features

- Device for the movements type: Panel PC touch screen dedicated
- Movements type: Completely motorized with setting up DOUBLE SPEED
- Collimator: Digital system of automatic collimation and laser pointer with direct control through CAN bus protocol
- Longitudinal Run: 2300 mm
- Transversal Run: 1310 mm
- Vertical Run: 1230 mm
- X-ray group rotation on Vertical axis: ± 110°
- X-ray group rotation on Horizontal axis: ± 110°

IOTA Column

The IOTA S column is an X-ray unit that is combined with other devices to compose a conventional radiological system for clinical examinations. Typical application is intended with patient in a lying or orthostatic position.

IOTA S is a tube stand that holds the X-ray source for radiological investigation, it is mounted on a floor-roll and it has a standard supply a collimator.
The unit, with its complete configuration, has 5 movements brake by electromagnetic or mechanical brakes.

Technical features

- Longitudinal travel: 1900 mm (+/- 150 mm)
- Rotation of the tube/housing group: ± 180° around the support axis
- Transversal movement of the tube/housing group: From 500 to 750 mm (measured from the column)
- Vertical travel: 1620 mm
- Travel of the telescopic tube holder arm: 200 mm (+/- 100)
- Rotation of the column on its axis: ± 160° with mechanical arrest at ± 90°
- Collimator: Multi beam with retractable motor for FFD indication

IOTA WS43 Fixed or Tilting wall Bucky stand

ZETA WS43 is a stand bucky that, combined with other devices composes a conventional radiological system. Their typical application is with patient in vertical or horizontal position. The stand bucky provides two options: the fixed and the tilting wall bucky. The first configuration is designed for vertical stand examinations, like chest or spine examinations. The tilting bucky allows to perform a wide range of diagnostic examinations, included extremity bones. The bucky is equipped with a support for both CR cassette and analogue screen films.

Technical features for WS43 Fixed and Tilting wall Bucky stand

- Column fixing: On the wall or floor mounted as OPTION
- Vertical travel of the Potter Bucky: 1500 mm
- Minimum distance of the imaging area from the floor: 400 mm (center of the image)
- Cassette size: from 13x13 to 43x43 cm
- Accepted all the combinations of standard Potter sizes with auto-carrying cassette-holder

Technical features for WS43 Tilting wall Bucky

- Bucky ROTATION angle: -15° / + 90°
The IOTA Be elevating stretcher is a mobile X-ray unit provided with 4 wheels that is combined with other devices to compose a conventional radiological system for diagnostic examinations. Typical application is intended for patient examinations in lying position. The system is provided with longitudinally shifting bucky, moving table with variable height, X-ray transparent 4-way floating tabletop. It can be equipped with analogical screen film, CR cassette or digital detector. The variable height of the tabletop helps access to the stretcher for the patient and it is recommended for examinations of patients with mobility difficulties.

Technical features
- Longitudinal movement of patient-holder top: 920 mm (+/- 450 mm) @ manual
- Transversal movement of patient-holder top: 250 mm (+/- 125 mm) @ manual
- Vertical travel of the patient-holder top: 400 mm
- Potter Bucky movement: 560 mm
- Cassette size: From 13x13 to 43x48 cm
- Weight sustainable by the patient-holder top: Up to 180 kg

The IOTA T Fixed table is an X-ray unit that is combined with other devices to compose a conventional radiological system for diagnostic examinations. The system is provided with longitudinally shifting bucky, X-ray transparent 4-way floating tabletop. It can be equipped with analogical screen film, CR cassette or digital detector. In the standard configuration the table is fixed to the floor and it can be combined with a column or a ceiling suspension for a complete diagnostic room.

Technical features
- Longitudinal movement of patient-holder top: 920 mm (+/- 450 mm) @ manual
- Transversal movement of patient-holder top: 250 mm (+/- 125 mm) @ manual
- Potter Bucky movement: 560 mm
- Cassette size: From 13x13 to 43x48 cm
- Weight sustainable by the patient-holder top: Up to 180 kg

The IOTA Te elevating table is an X-ray unit that is combined with other devices to compose a conventional radiological system for diagnostic examinations. Typical application is intended for patient examinations in lying position. The system is provided with longitudinally shifting bucky, fixed table with variable height, X-ray transparent 4-way floating tabletop. It can be equipped with analogical screen film, CR cassette or digital detector. The variable height of the tabletop helps access to the stretcher for the patient and it is recommended for examinations of patients with mobility difficulties.

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- Weight sustainable by the patient-holder top: Up to 180 kg
Lambda DFF is a full field digital mammography unit for diagnostic and screening examinations to prevent breast diseases. This system uses an amorphous silicon technology to obtain digital images with high efficiency and a higher signal/noise ratio, in fact, the combination between the Se-A of the detector and the tungsten Anode and Rh-Ag filtration provides low dose values according to "EUROPEAN GUIDELINES" Protocol.

The Acquisition Station is integrated with a transparent anti-X protective barrier for the operator. It is composed of:
- software inclusive of:
  - motorized mammo control panel
  - off-line images display and viewing
  - local fully functional operational mode
  - patient information local Database
  - graphic manipulation tools
- 2 MPixel Colour Medical LCD Display System
- DICOM 3.0 Conformaty
- HIS-RIS PACS interface

Lambda represents the highest level of development reached up to now in analog mammography and it allows to make accurate diagnosis with low cost. It is a completely integrated and independent system that ensures outstanding analog images obtained with maximum accuracy. Its wide range of accessories makes its usage easy for the operator and its service easy for specialized technicians.

Lambda and Lambda DFF are also available with a digital stereotactic biopsy device. This version is fitted with isocentric C-Arm that allows all breast projections without moving the patient and without adjusting the height of the C-Arm.

Compression Device:
- Manual or motorized movement with automatic safety release at the end of the exposure
- Adjustable compression force with display of the value
- Descending paddle speed proportionally reduced with increasing compression force.

Automatic Exposure Control Device:
- Innovative Software
- Microprocessor controlled
- Simple and quick installation of the whole mammographic system.

Double Display:
- LCD graphic display
- Display of exposure parameters, error messages and other data.
- Auxiliary display for displaying the rotation angle of the arm.
  the compression force and the thickness of the breast.

### LAMBDA Configurations

<table>
<thead>
<tr>
<th>STAND ALONE with Viewing and Reporting Station</th>
<th>FULL DICOM without Viewing and Reporting Station</th>
<th>FULL DICOM with Viewing and Reporting Station</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the mammography system has not to be connected to a PACS</td>
<td>If the diagnostic centre has already its own Viewing and Reporting Station</td>
<td>If the diagnostic centre has not a Viewing and Reporting Station</td>
</tr>
</tbody>
</table>
Deluxe is the software developed by GMI for the acquisition and processing of RAD images from digital flat panel detector and for the digitization of RF images acquired through imaging chain. The easy user interface, the fast processing and displaying of acquired images, the integration into a RIS-PACS system, the possibility to record emergency patients simplifies daily work routine in the radiological department. Deluxe uses advanced processing algorithms, including fast multifrequencies filters, to obtain the best image quality with minimum dose to the patient.

Deluxe integrating part of GMI systems: Gamma, Alpha, Evo, Pi. The versatility of Deluxe configurations makes it the best solution for digital diagnostic images management.

- Excellent image quality: Images are delivered with constant high quality and with very low dose reducing the number of retakes. The processing algorithms provide excellent image quality without need of further adjustments. Filters are adapted for each anatomical region.

- Integration possibilities: Deluxe manages different flat panel detectors and different generators, setting exposure parameters directly without need of a separated console.

- User friendly interface: the software is easy to use and the protocols can be translated in any language. Many options are configured according to the user needs.

- Full DICOM compatibility: DICOM query SCP, Modality worklist, PIOP e storage SCU. Deluxe is integrable into RIS-PACS systems.

- Fast image acquisition and processing: Images are acquired, processed and displayed in a few seconds. After the acquisition the user can perform all the basic operation on the images.

- Local Database: Deluxe is endowed with a local DB where images are stored. Studies can be opened again to display images or add new ones.

- Panel with all the operations you can perform on the image: annotations, zoom, measurements, cropping, mirroring...
- Image Processing algorithm
- Image histogram display
- Change of window width and window level