



BRIN
BADAN RISET
DAN INOVASI NASIONAL

MadeenaTM
Imaging System Forever

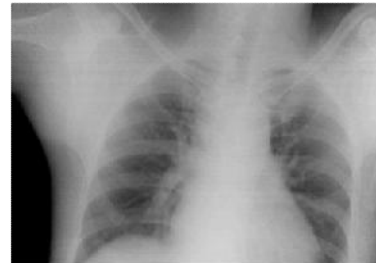
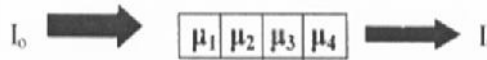
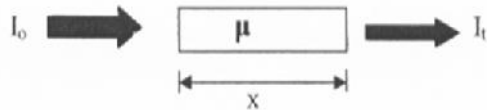
RISET FISIKA CITRA

**RADIOGRAFI DIGITAL SINAR-X
INDUSTRIAL CTSCAN
MICRO-DRCTScan
3D MICROSCOPE**

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SERAPAN RADIASI SINAR-X



$$-\frac{dI}{I} = \mu dx$$

$$\ln \frac{I_0}{I_t} = \mu x$$

$$I_t = I_0 \exp(-\mu x)$$

$$I_t = I_0 \exp\{-(\mu_1 x_1 + \mu_2 x_2 + \mu_3 x_3 + \dots + \mu_n x_n)\}$$

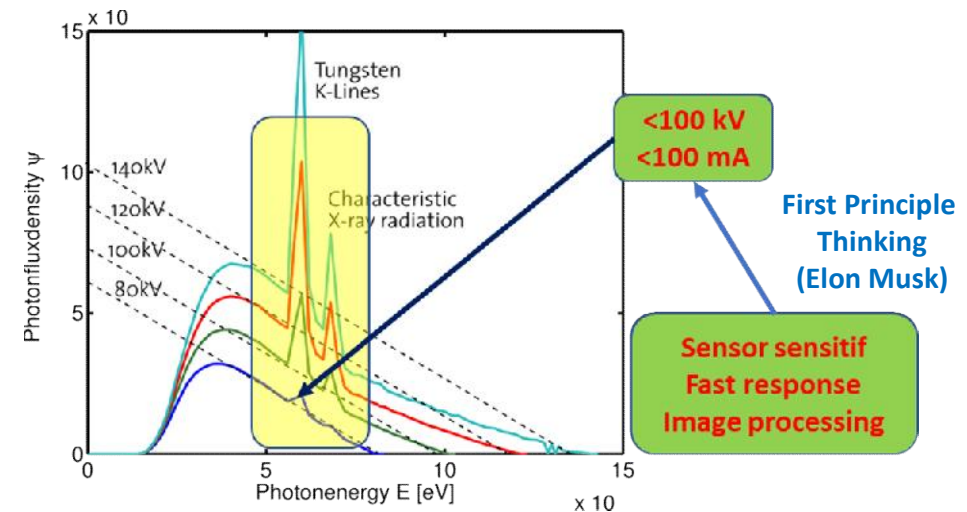
Ilmu Radiografi perlu pemahaman tentang:

1. Energi radiasi E (V, i) $\rightarrow$ (kV, mA)
2. Bahan obyek yang diradiasi (Z, x)
3. Daya tembus (V)
4. Ketebalan obyek (x)
5. Waktu eksposi (t)
6. Jarak (r)
7. Intensitas radiasi (i, r, t, x, V) $\rightarrow$ Dosis Radiasi

$$I_0 \propto V^2 i$$

$$\mu = f(Z, E)$$

$$I \propto \frac{1}{r^2}$$

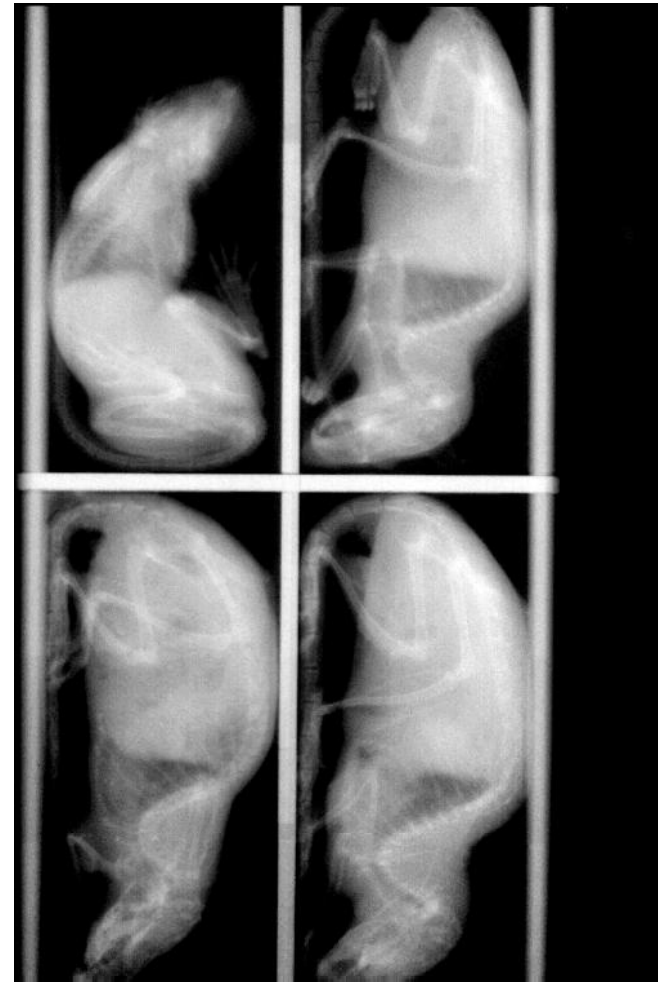
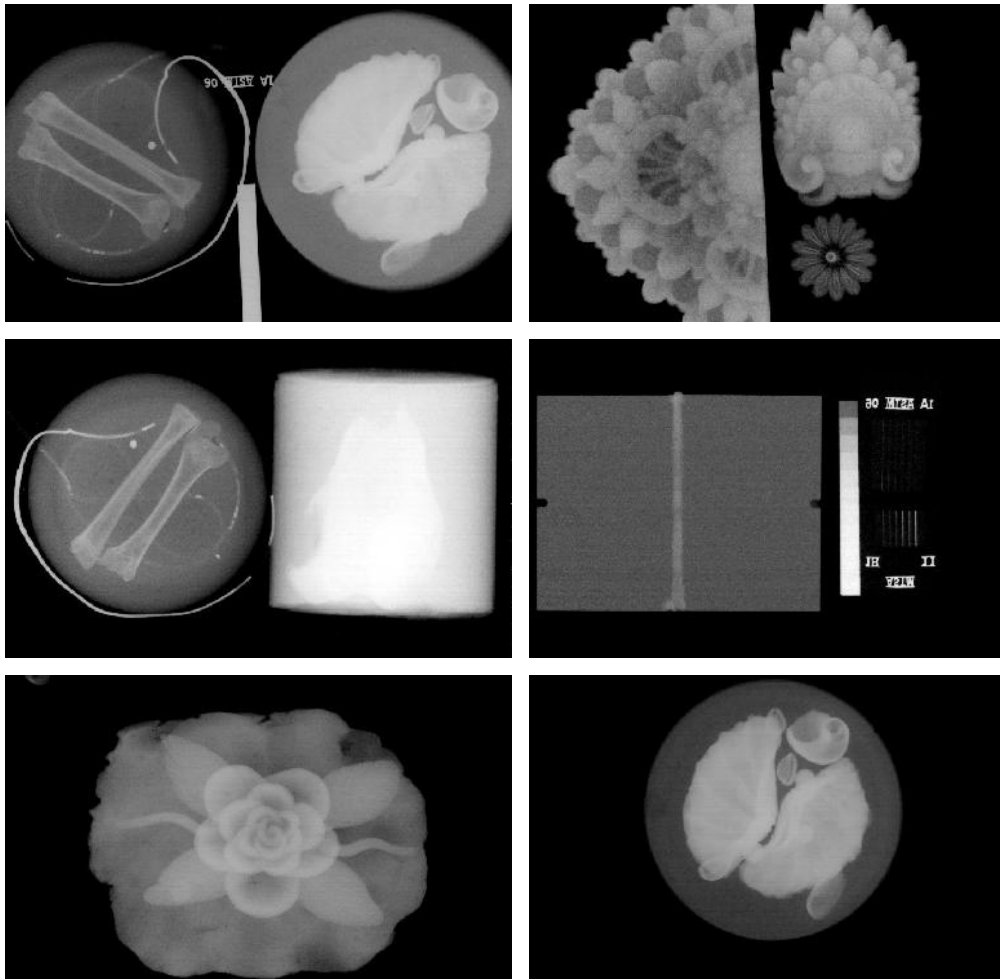


Digital Radiography untuk Medis

Tema: Image Processing (Physics)



Images of Direct Digital Radiography



SPESIFIKASI TEKNIS



SPESIFIKASI

Listrik PLN : 1 fase 220 VAC, 50 Hz
X-ray generator: SF100BY
Daya x-ray : 60-90 kV
Arus filamen : 16, 32, 63 mA
Arus mAs : 13.0 – 31.5 mAs
Waktu eksposi : <0.5 s
Jarak eksposi : 90 cm
Area eksposi : 40 cm x 30 cm
Sensor : TO-440/Fuji HR-Fast
Camera : CMOS 12 bit
Resolusi citra : 4840x3840
Resolusi dinamis: 12 bit/16 bit
Format citra : TIFF 16 bit
Format DICOM : JPG/JPEG 8 bit
Display : LED Monitor 32"
Komputer : Proc. i7, RAM 16 Mb
Platform : MS Windows 10
Software : DrGrabber 2021
Dimensi : 240 cmPx160cmHx80cmL
Tujuan diagnostik: Radiografi Thorax, dan Radiografi Umum

DIRECT DIGITAL RADIOGRAPHY SYSTEM

WWW.MADEENA-XRAY.COM



PRESENTING

- Made in Indonesia
- TKDN 81%
- 30 Years R&D
- For Big or Small Hospitals

PATENTED INNOVATION

- High Performance
- Easy Operation
- Teknologi Adaptive
- Low Investment
- Low Radiation
- Quick Service

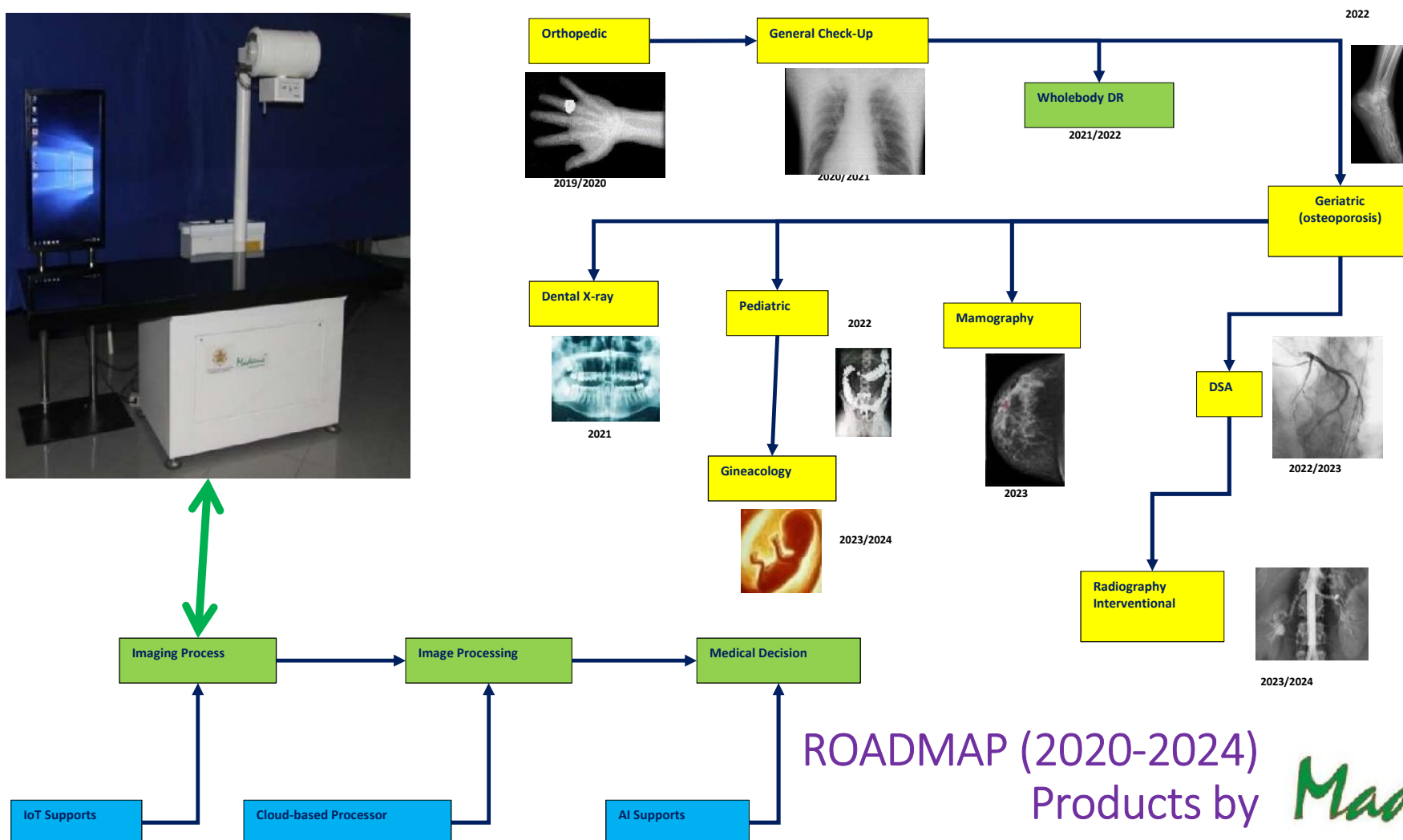
PT MADEENA KARYA INDONESIA

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 Purwomartani, Kalasan, Sleman
 Yogyakarta 55571
 Indonesia

ENDORSED BY

BPPT - KEMENKES RI
 KEMENPERIN - BPFK
 RISTEK BRIN - PERSI
 UGM

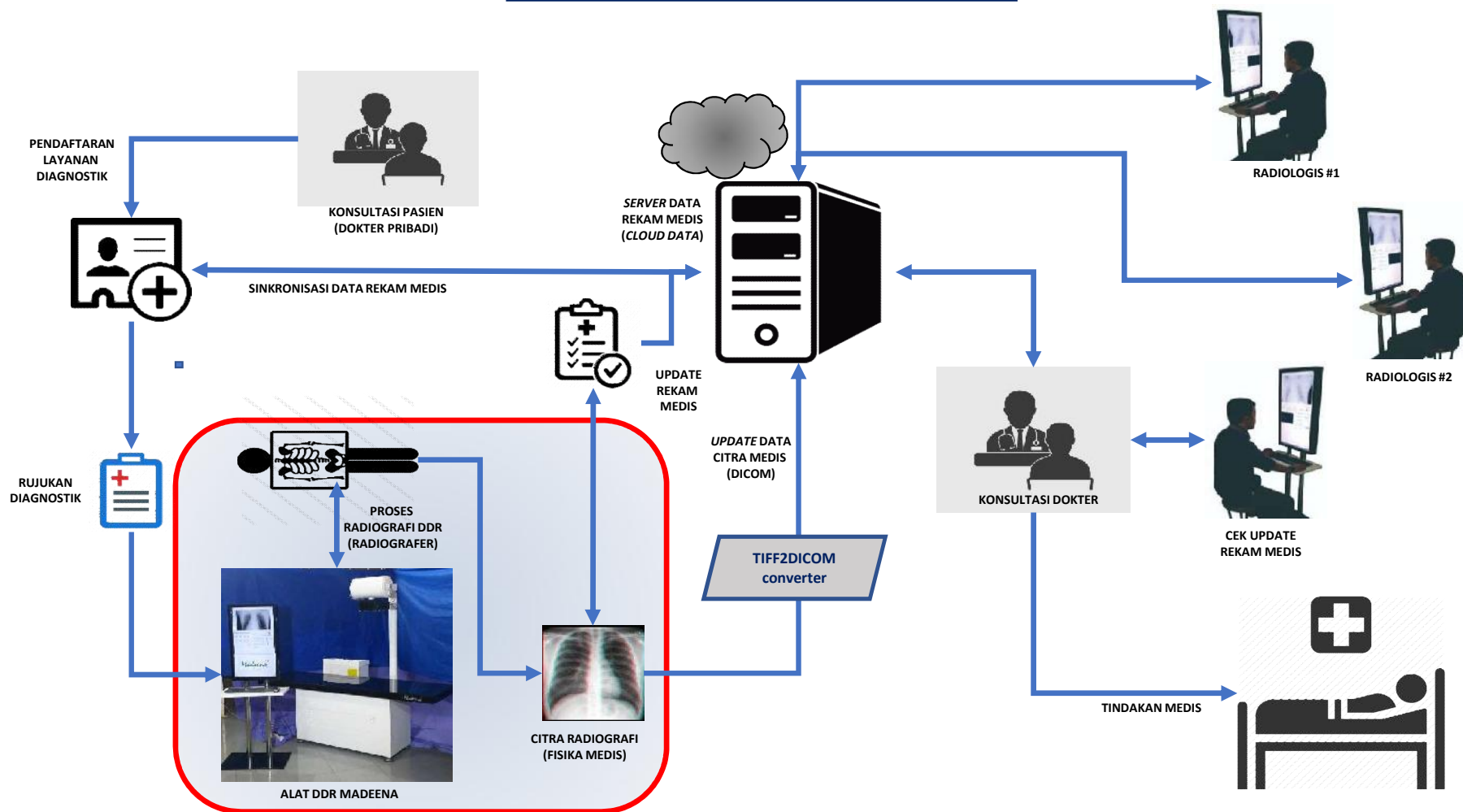




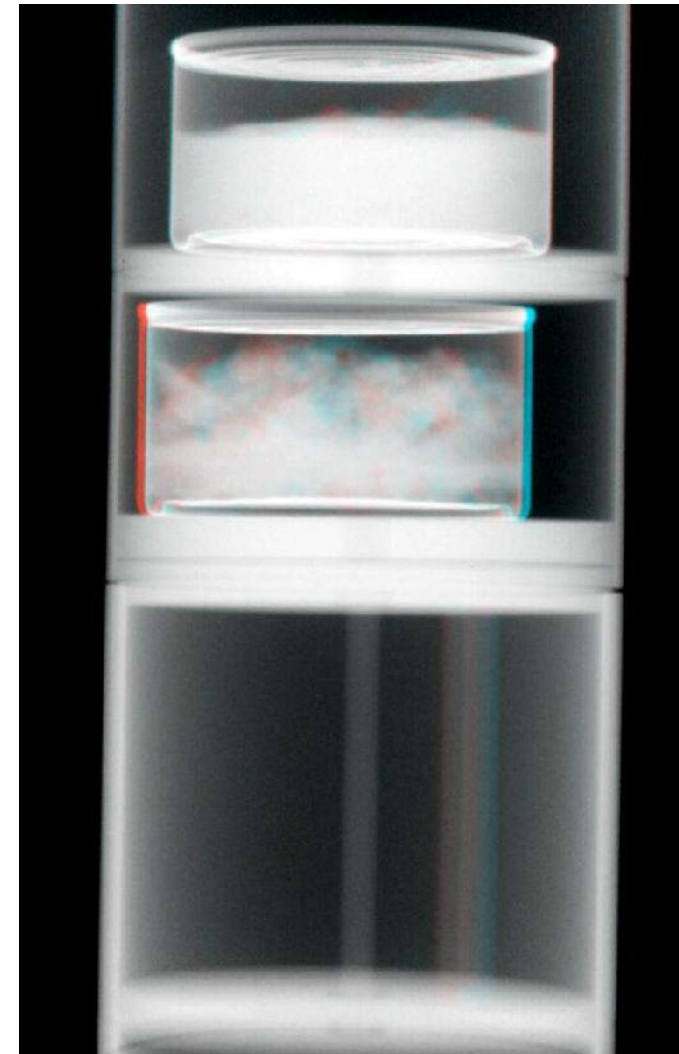
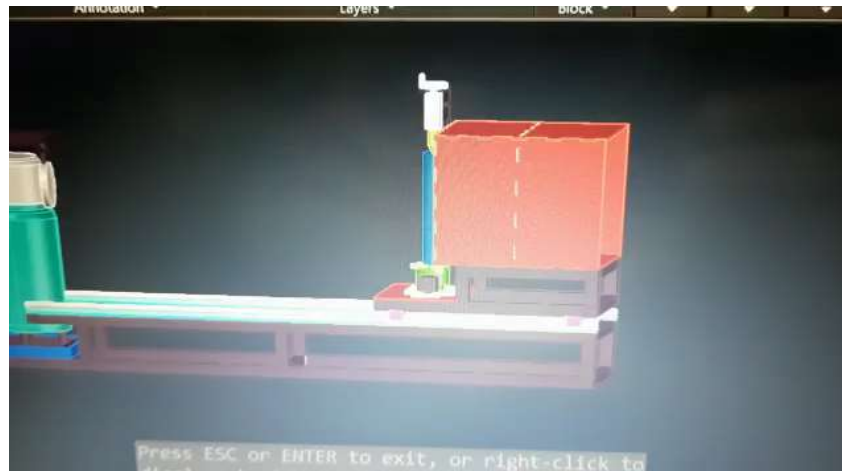
ROADMAP (2020-2024)
Products by

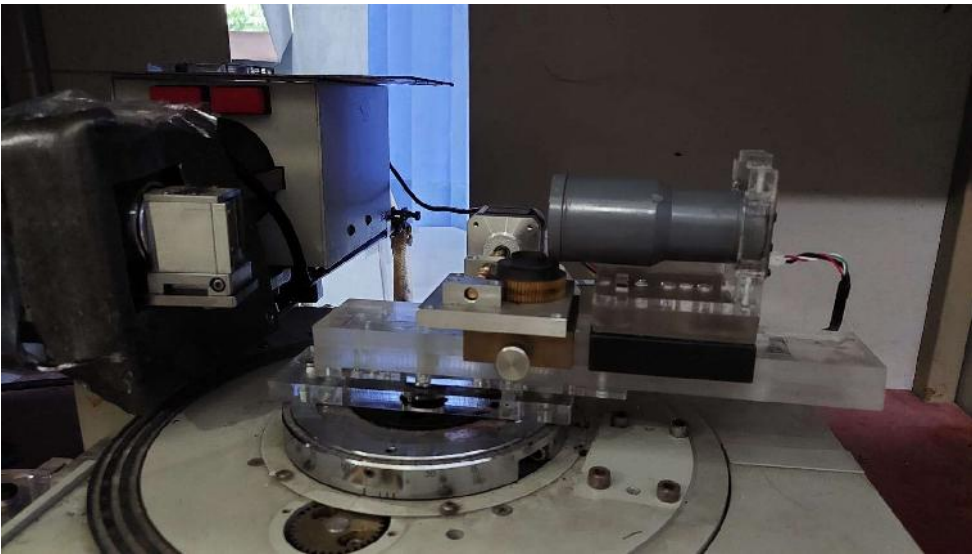
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PROSES TELERADIOLOGI

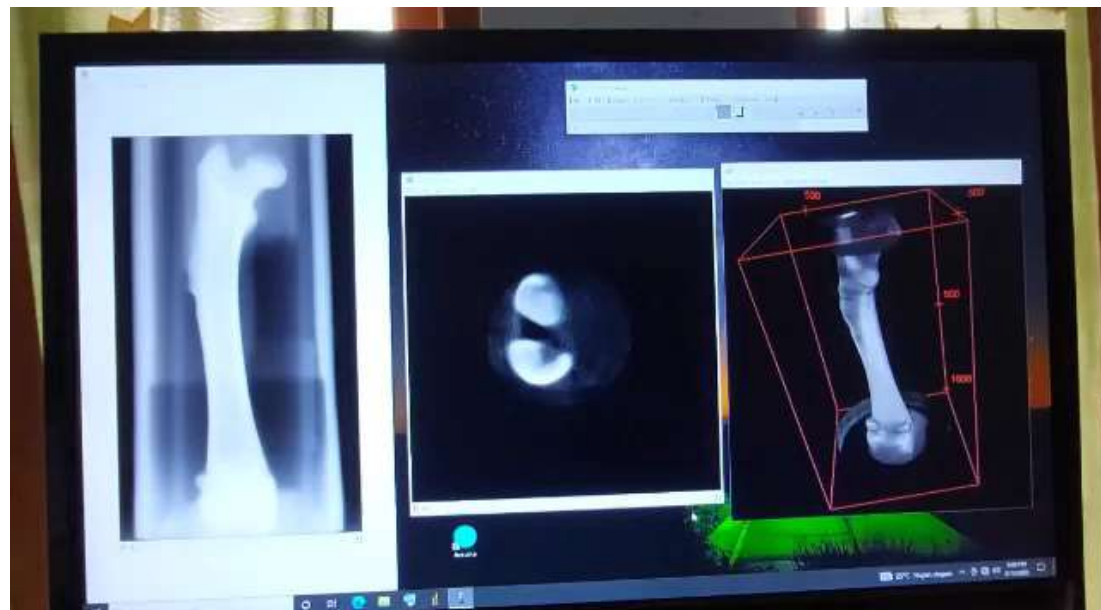


CTScan Industri





Micro-DRCTScan



Rencana Riset S2/S3

- Human Body Phantom (Indonesia) untuk Radiografi (S3)
- 3D Wholebody Radiography (S3)
- Mammography (S3)
- Quick Scanning and Fast Sampling in Industrial CTScan (S2)
- 3D Digital Microscope (S2)
- Inspeksi efek pembakaran pada struktur beton (S2)
- Inspeksi makanan dalam kaleng menggunakan radiografi sinar-x digital (S2)
- Micro-DRCTScan (S2): micro-DR small specimens