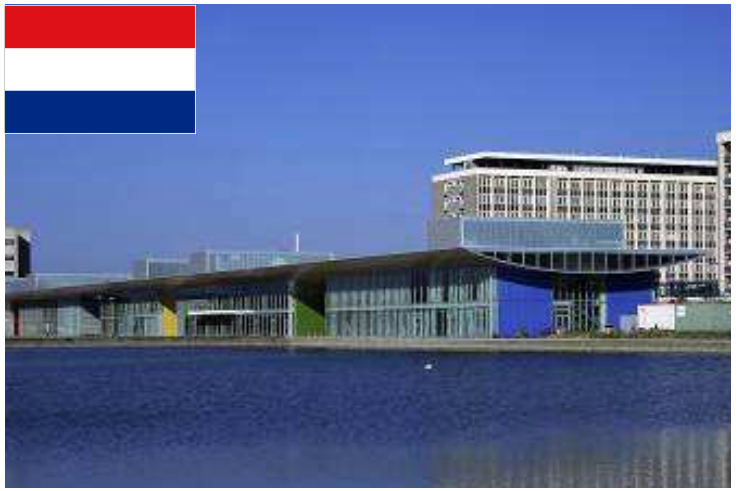
PHILIPS

sense and simplicity

Innovations in Imaging



Hans Hofstraat
Philips Research
January 21, 2010

PHILIPS

Content

- Philips Healthcare
- Imaging Roadmap Research
- Image-Guided Intervention & Therapy
- Summary

PHILIPS

Depth and reach of Philips Healthcare

What we do. Where we are.

Philips Healthcare

Businesses

Imaging Systems	Home Healthcare Solutions	Clinical Care Systems	Healthcare Informatics	Customer Services
				
35%*	15%*	15%*	10%*	25%*

Sales & services geographies

North America	International	Emerging Markets
		
50%*	35%*	15%*

* Approximate

€7.6
Billion in sales in 2008

30,000+
People employed worldwide in 100 countries

11%
of system sales invested in R&D

450+
Products and services offered in over 100 countries

PHILIPS

Market driven Innovation in Healthcare

In the constant struggle to **improve the quality of care** while also satisfying **increased demand** and at the same time **controlling costs**, technology has consistently proven itself as a significant part of the answer

PHILIPS

Content

- Philips Healthcare
- Imaging Roadmap Research
- Image-Guided Intervention & Therapy
- Summary

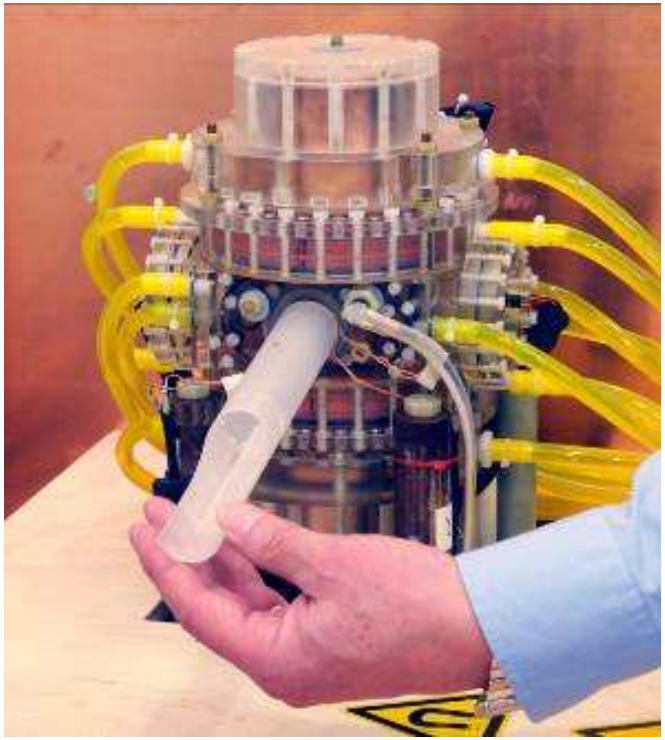
PHILIPS

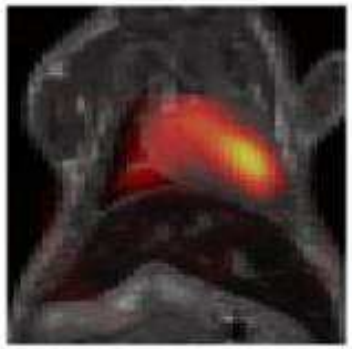
Magnetic Particle Imaging

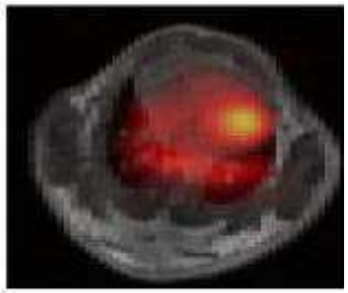
A New Imaging Technology

- Novel medical imaging technology using the magnetic properties of iron-oxide nanoparticles to produce three-dimensional images of nanoparticles injected into the bloodstream

- Technology combines sensitivity, high spatial resolution with short image acquisition times (may be as short as 1/50th of a second)







PHILIPS

Making Imaging Technologies More Broadly Available

Solutions for Community Hospitals, Outpatient Centers, Emerging Markets

BrightView XCT

- Novel combination of SPECT molecular imaging and flat panel CT
- Ideally suited for hybrid imaging in Cardiac, Oncology and Orthopedic applications

CT MX 16

- Specifically designed to the demands of community hospitals and diagnostic outpatient centers
- Ideally suited when price/performance is a key decision parameter

Essenta DR Compact

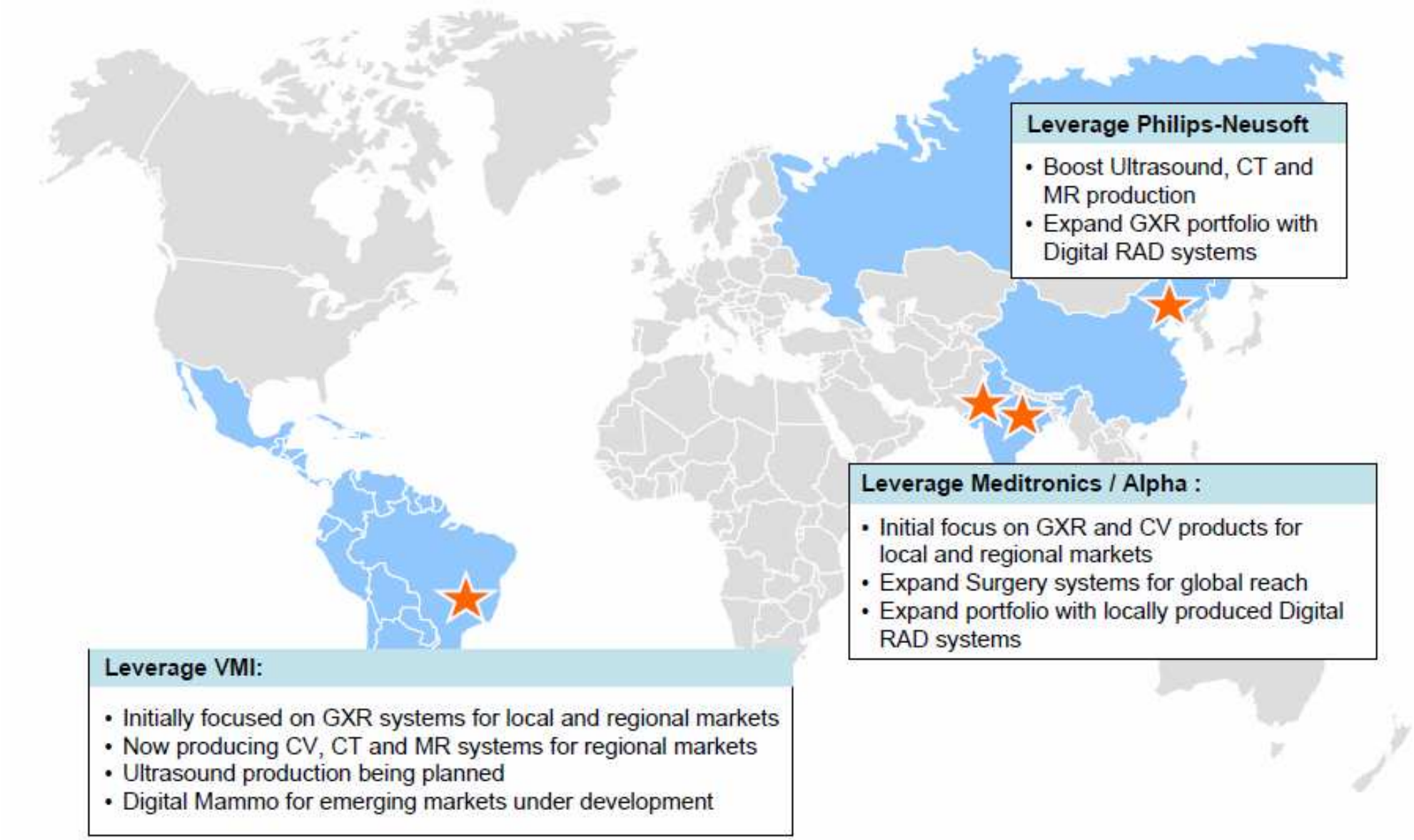
- Right solution for smaller hospitals and private practices
- Drives digitization of radiography rooms

Essenta CV

- Solution designed to dedicated needs of Emerging Markets
- Optimal price/ performance

PHILIPS

Emerging Markets Drive Affordability and Wider Availability of Imaging Technologies



Leverage Philips-Neusoft

- Boost Ultrasound, CT and MR production
- Expand GXR portfolio with Digital RAD systems

Leverage Meditronics / Alpha :

- Initial focus on GXR and CV products for local and regional markets
- Expand Surgery systems for global reach
- Expand portfolio with locally produced Digital RAD systems

Leverage VMI:

- Initially focused on GXR systems for local and regional markets
- Now producing CV, CT and MR systems for regional markets
- Ultrasound production being planned
- Digital Mammo for emerging markets under development

PHILIPS

Content

- Philips Healthcare
- Imaging Roadmap Research
- Image-Guided Intervention & Therapy
- Summary

PHILIPS

Leading the way

Transforming technologies

Today

Imaging
Early and confident diagnosis

Clinical IT
Right information at the right time

Home Healthcare
- Emergency systems
- Remote monitoring of vital body signs
- Treating sleep disorders

Tomorrow

Image guided intervention and molecular imaging
Better outcome, with minimal patient trauma of adverse side effects

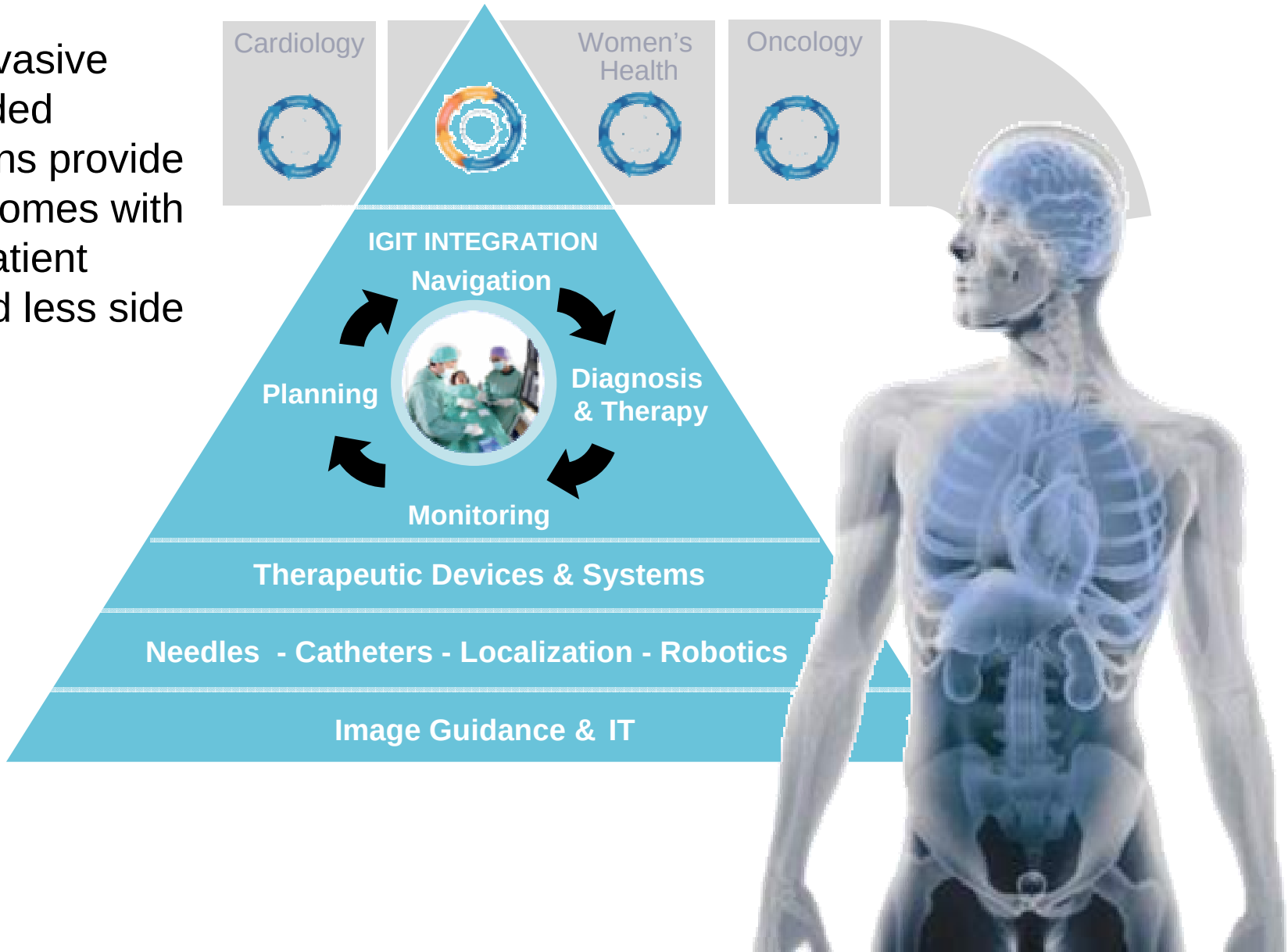
Clinical Decision Support
Tools based on an understanding of disease pathways and user insights

Care Everywhere
- Ever-present monitoring
- Home treatment
- Chronic disease management

PHILIPS

Image-guided intervention & therapy

Minimal-invasive image-guided interventions provide better outcomes with reduced patient trauma and less side effects



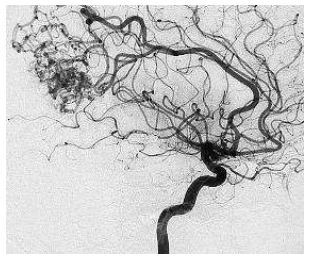
PHILIPS

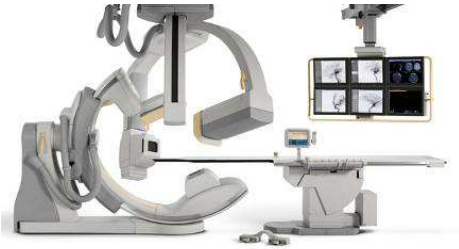
CV Xray: What do we do? Our applications

Interventional Neuroradiology

Interventional Cardiology

Interventional Radiology





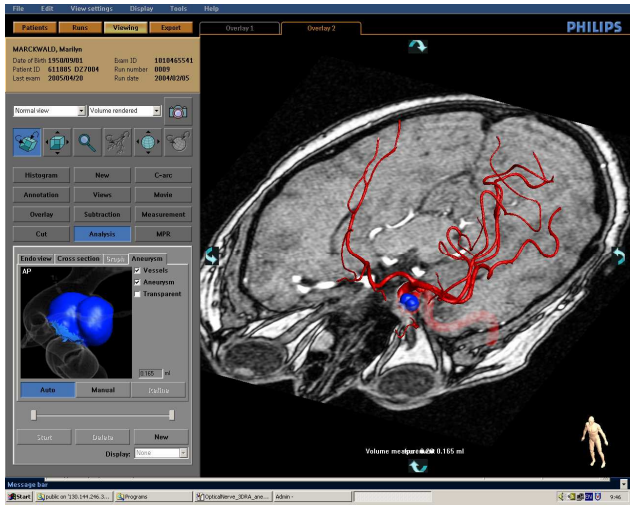
Allura Xper FD20/20

Allura Xper FD10

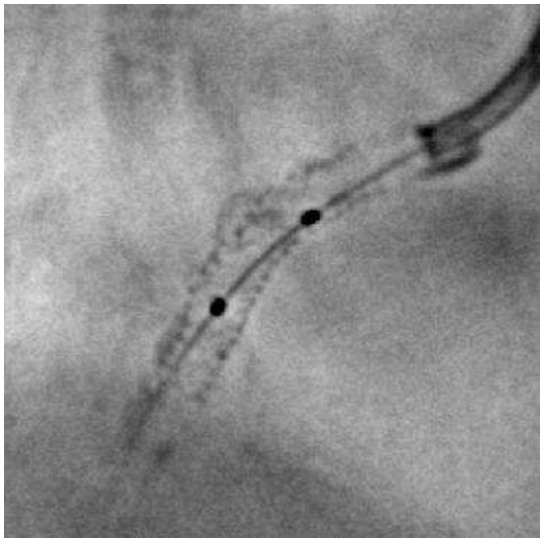
Allura Xper FD20

PHILIPS

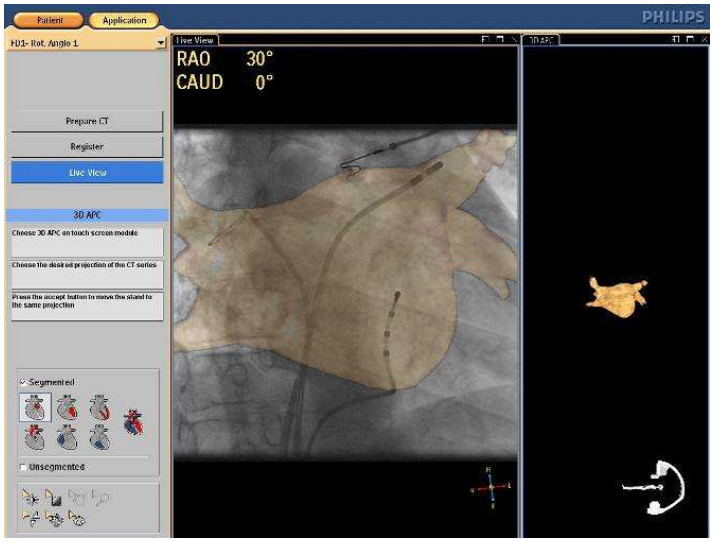
Philips' Strengths



3D Guidance



Stent boost



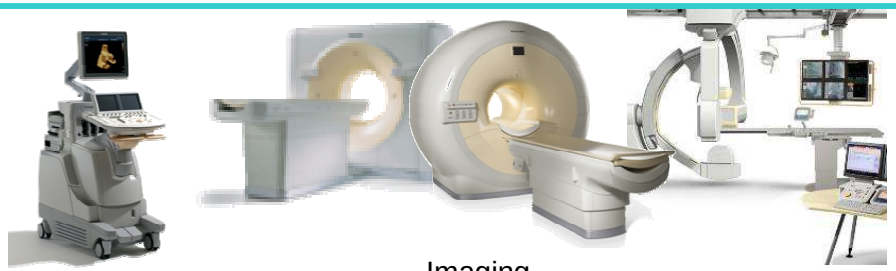
EP Navigator

Philips strength in sophisticated clinical tools developed in strong clinical partnerships

PHILIPS

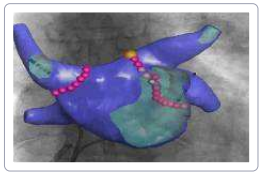
Creating an Imaging Application Platform for an *integrated EP lab*

From X-ray 'engine' towards application provider



Imaging

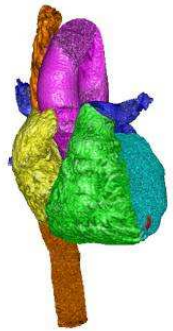
Defibrillator



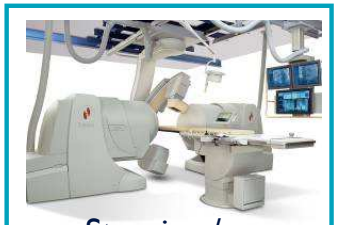
3D Mapping
NavX, Carto,
ElectroMap

Recording

Philips integrated EP lab with the central workspot



Integrated EP applications



Steering / Navigation

Others like 3D TEE
ICE,
Ablation devices

ST. JUDE

Biosense Webster

STEREOTAXIS

Hansen

BAIRD ELECTROPHYSIOLOGY

EPMedSystems

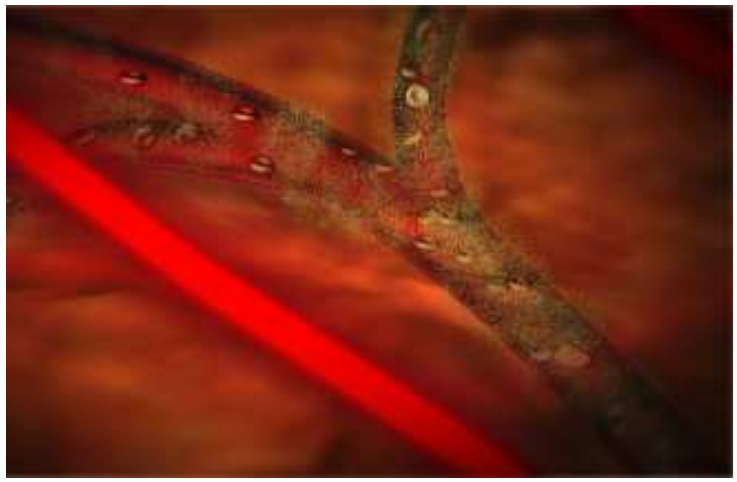
PHILIPS

Ultrasound mediated drug delivery

Oncology

- Researching drug-loaded microbubbles that can be injected into the bloodstream, tracked via ultrasound imaging, and then ruptured by a focused ultrasound pulse to release the drug payload when they reach the desired spot

- This may increase therapeutic efficiency and minimize side effects, while also providing a means of tailoring the therapy to individual patients



PHILIPS

Clinical Decision Support: From Data to Information

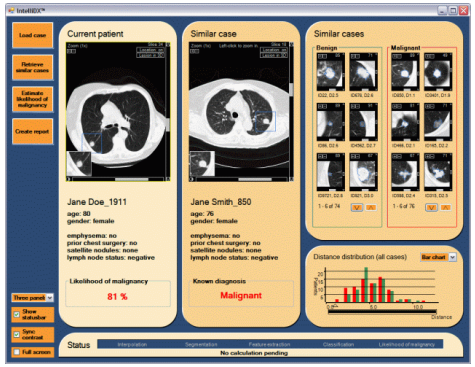
Lung cancer example

Lung Cancer Clinical Decision Support

- Integration of evidence from image and clinical data
- CADx: distinguishes benign and malignant lesions
- CADq: quantitative methods for optimizing patient care

Likelihood CADx

- Present a percent likelihood of malignancy
- Performance equivalent to expert physicians

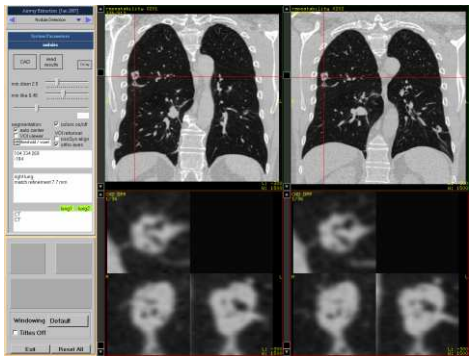


Case-based CADx

- Retrieves similar cases with a known diagnosis
- Potential to close performance gap between expert and less-experienced physicians

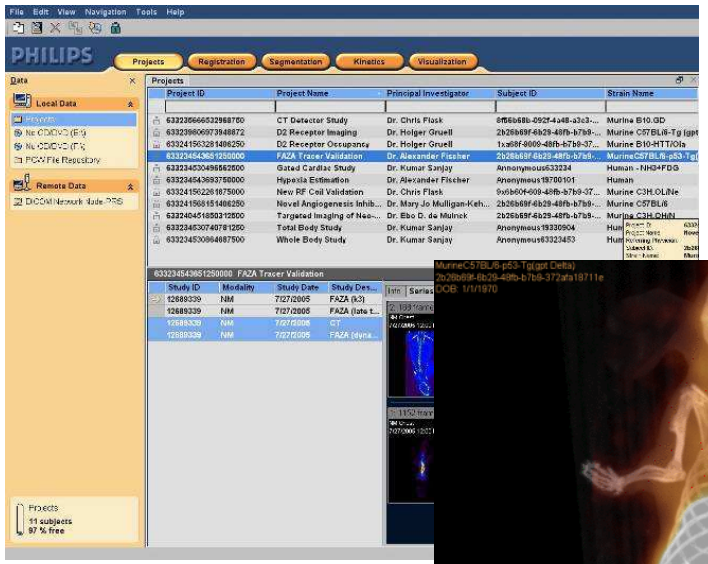
Computer-Aided Quantification

- Assess response to therapy through volumetric or physiological measurements
- Enables standardized, quantitative evaluation criteria

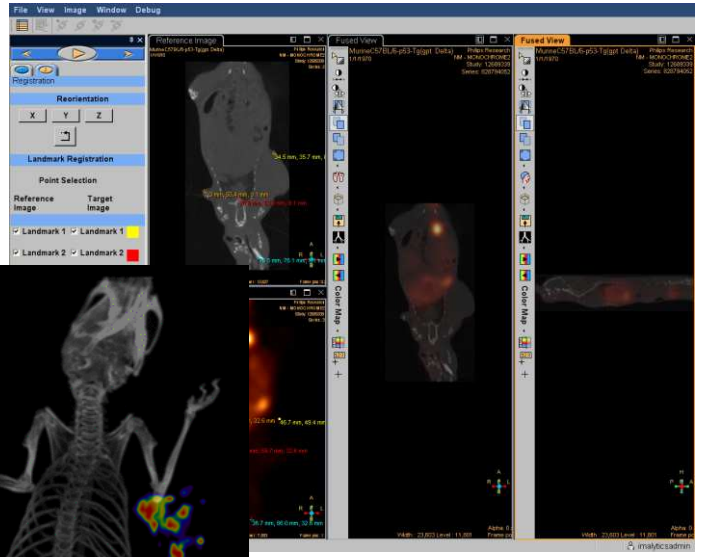


PHILIPS

Imalytics: A Translational Workstation



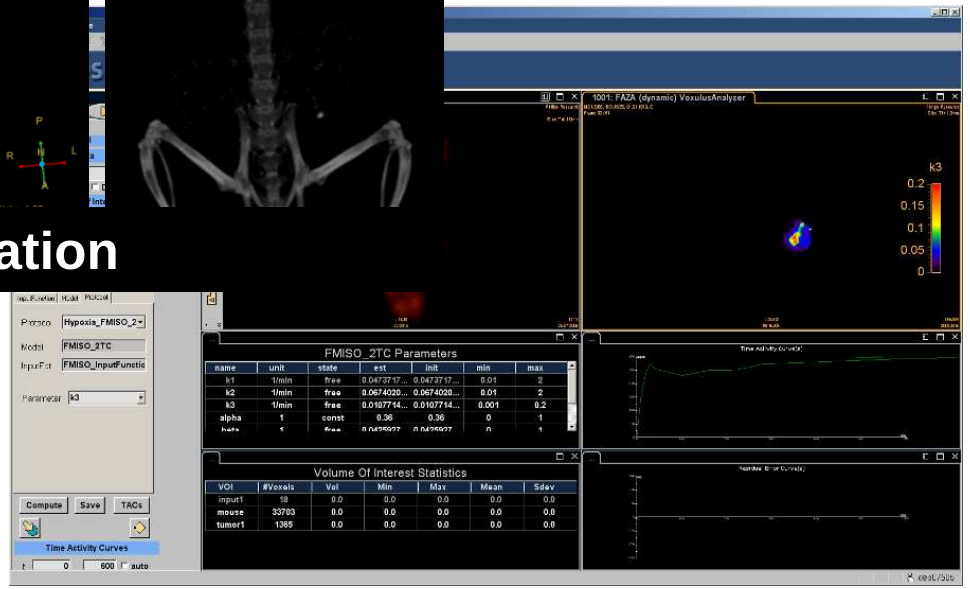
Project based w



gistration

Visualization

Segmentation



Pharmacokinetic Modeling

PHILIPS

Content

- Philips Healthcare
- Imaging Roadmap Research
- Image-Guided Intervention & Therapy
- Summary

PHILIPS

Summary

- Philips Research supports and drives Philips Healthcare's innovative product portfolio

- Roadmap innovation:
  - Products within Philips' product range
  - Focus on solutions for affordable healthcare
  - New technologies and applications

- Innovation themes:
  - Image-Guided Intervention and Therapy
  - Clinical Decision Support

- Creation of innovative solutions with clinical and academic partners in a setting of 'Open Innovation' – Public-Private Partnerships


PHILIPS