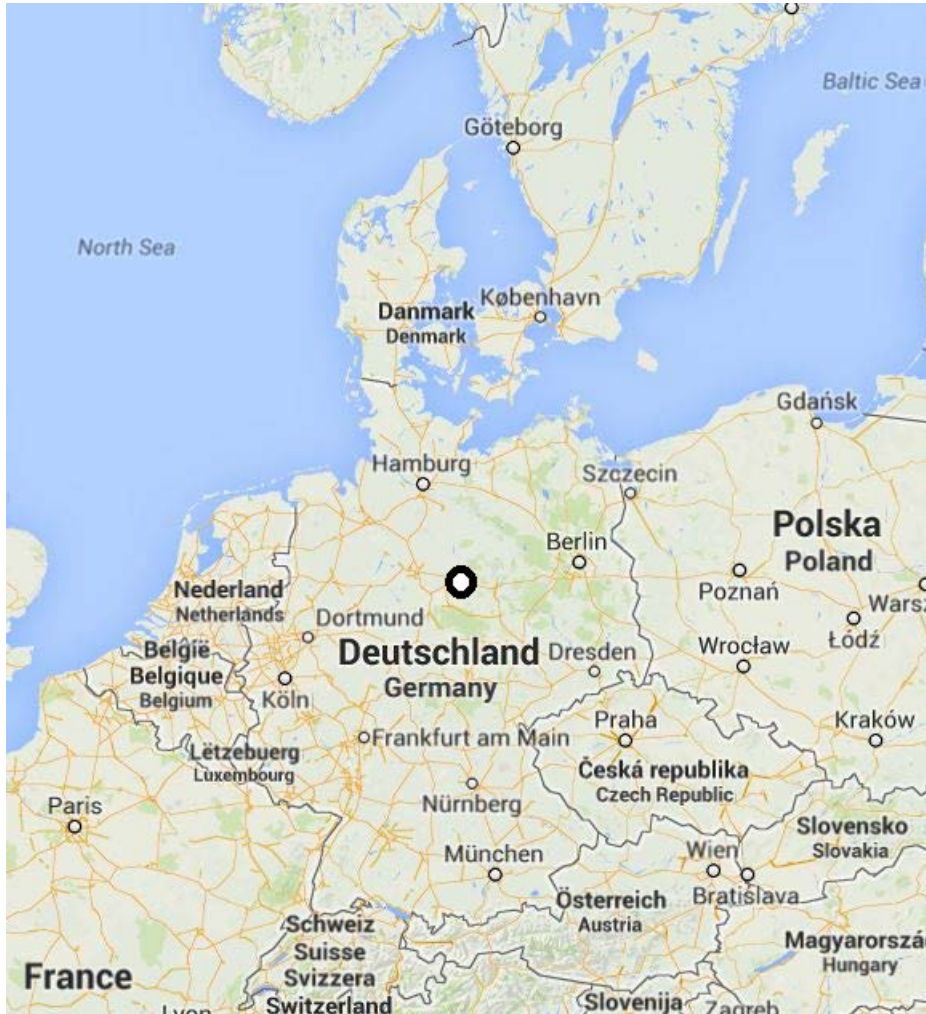




Changing Processes in Hospitals with mHealth

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Impressum



Institut für
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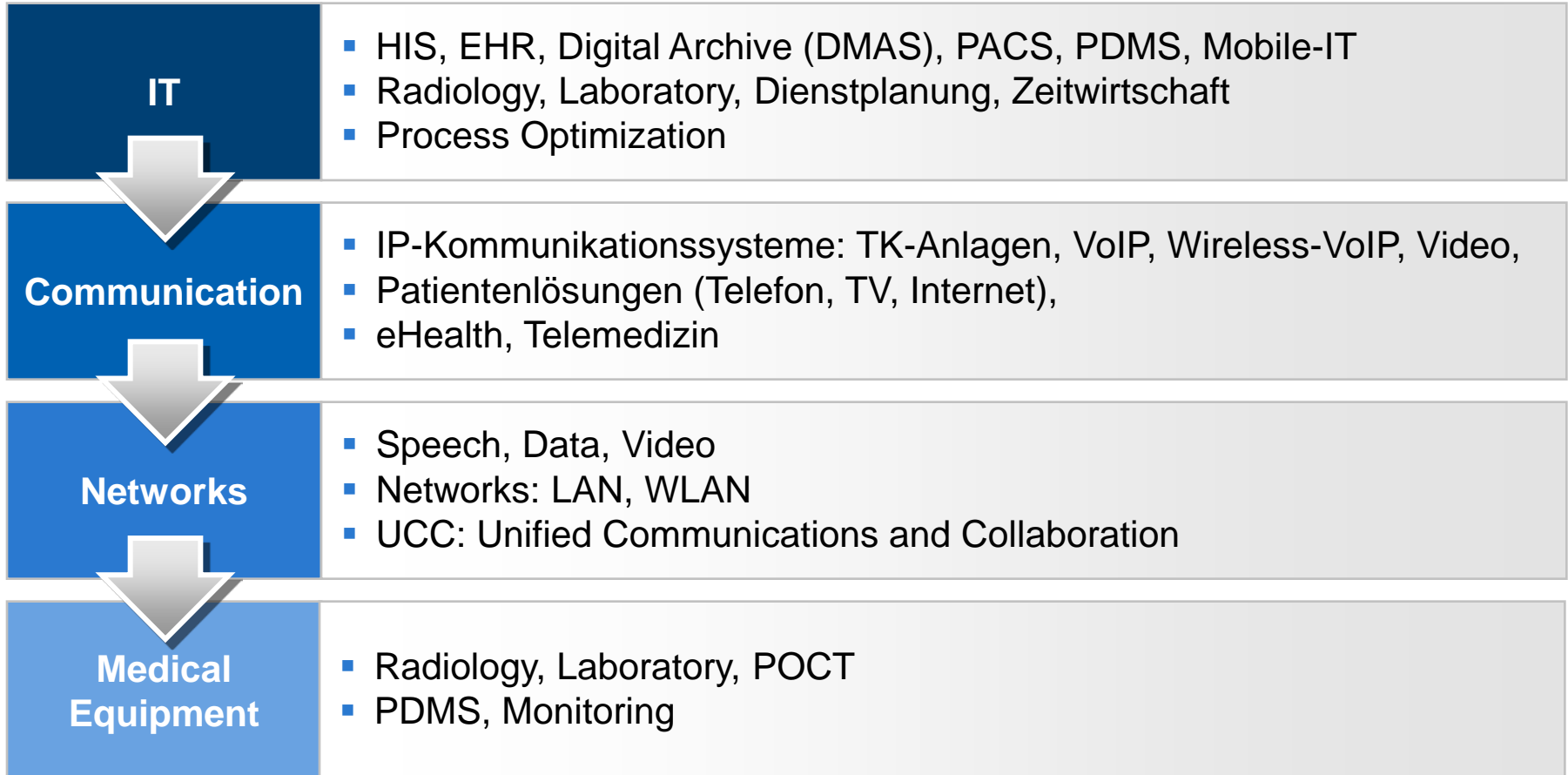
Beratungsangebot zur Informations- und Kommunikationstechnik (I+K) für Krankenhäuser

Das Institut für Krankenhauswesen in Braunschweig unter der wissenschaftlichen Leitung von **Prof. Dr.-Ing. Wolfgang Riedel** hat sich zur Aufgabe gemacht, moderne zukunftsweisende Lösungen für Krankenhäuser in den Bereichen **EDV/Telekommunikation, Netzwerke und Medizintechnik** innovativ zu planen und im Rahmen von Modellprojekten zu verifizieren. Dadurch sollen moderne zukunftsweisende Lösungen für Krankenhäuser gefunden werden.

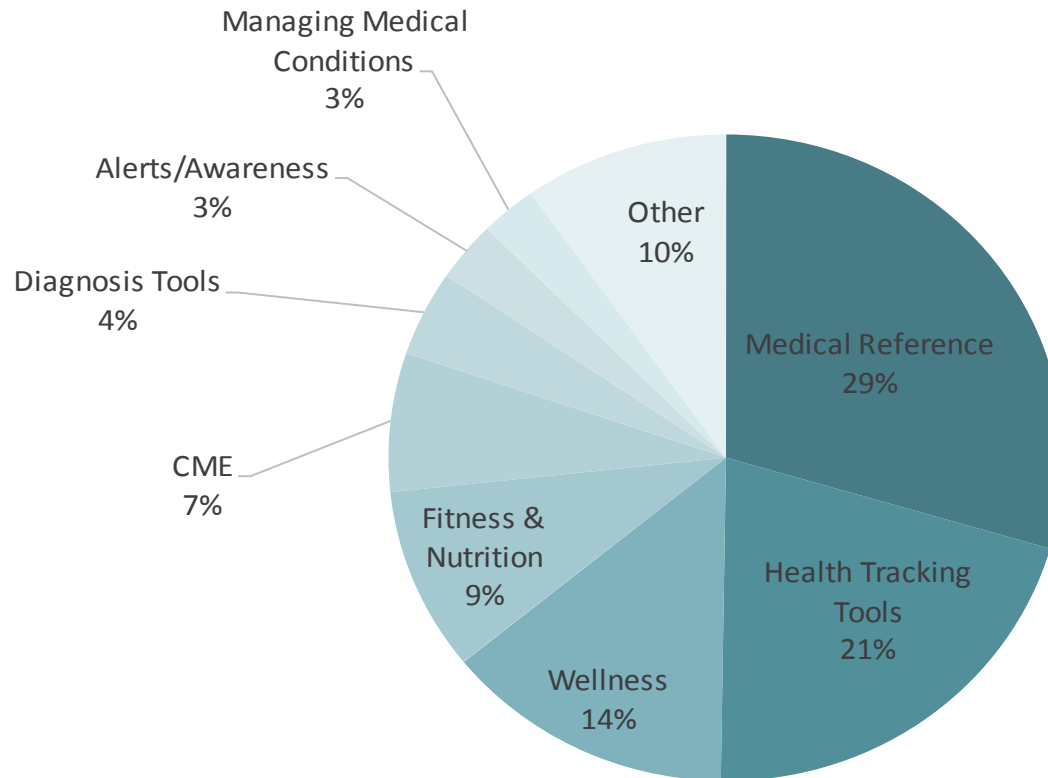


IfK - Institut for Hospital Management

ICT



Today's mHealth apps are made for consumers/patients not for professionals



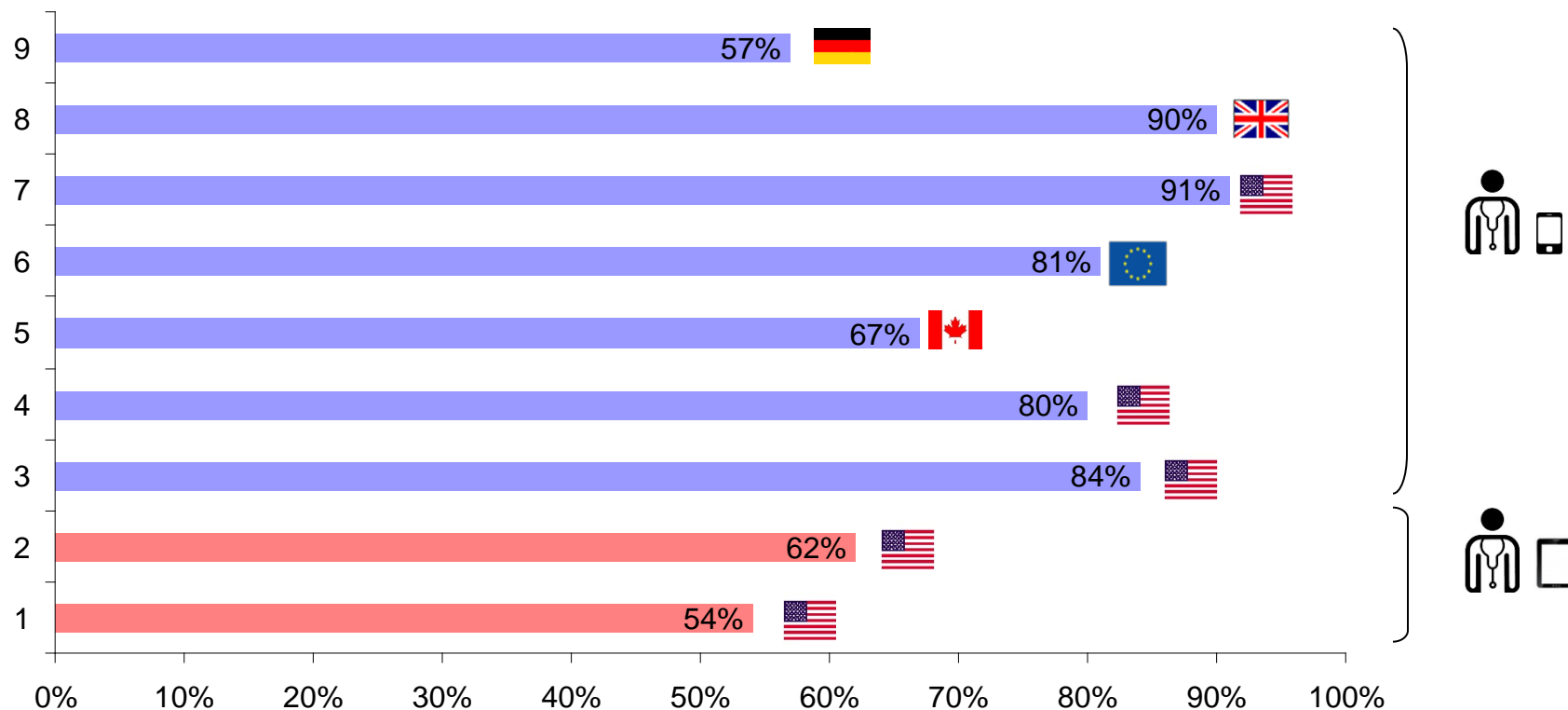
Base: All mHealth applications from Windows Marketplace for Mobile; Top 100 most popular mHealth applications from BlackBerry App World, PocketGear, Handango; Top 200 most popular mHealth applications from Android Market, Apple App Store.

Other includes Patients' Health Record, Medication Compliance, Remote Monitoring, Remote Consulting, Emergency, Logistical support, etc.

Source: research2guidance

Are physician ready for change?

Smartphone and tablet penetration among physicians in 2012



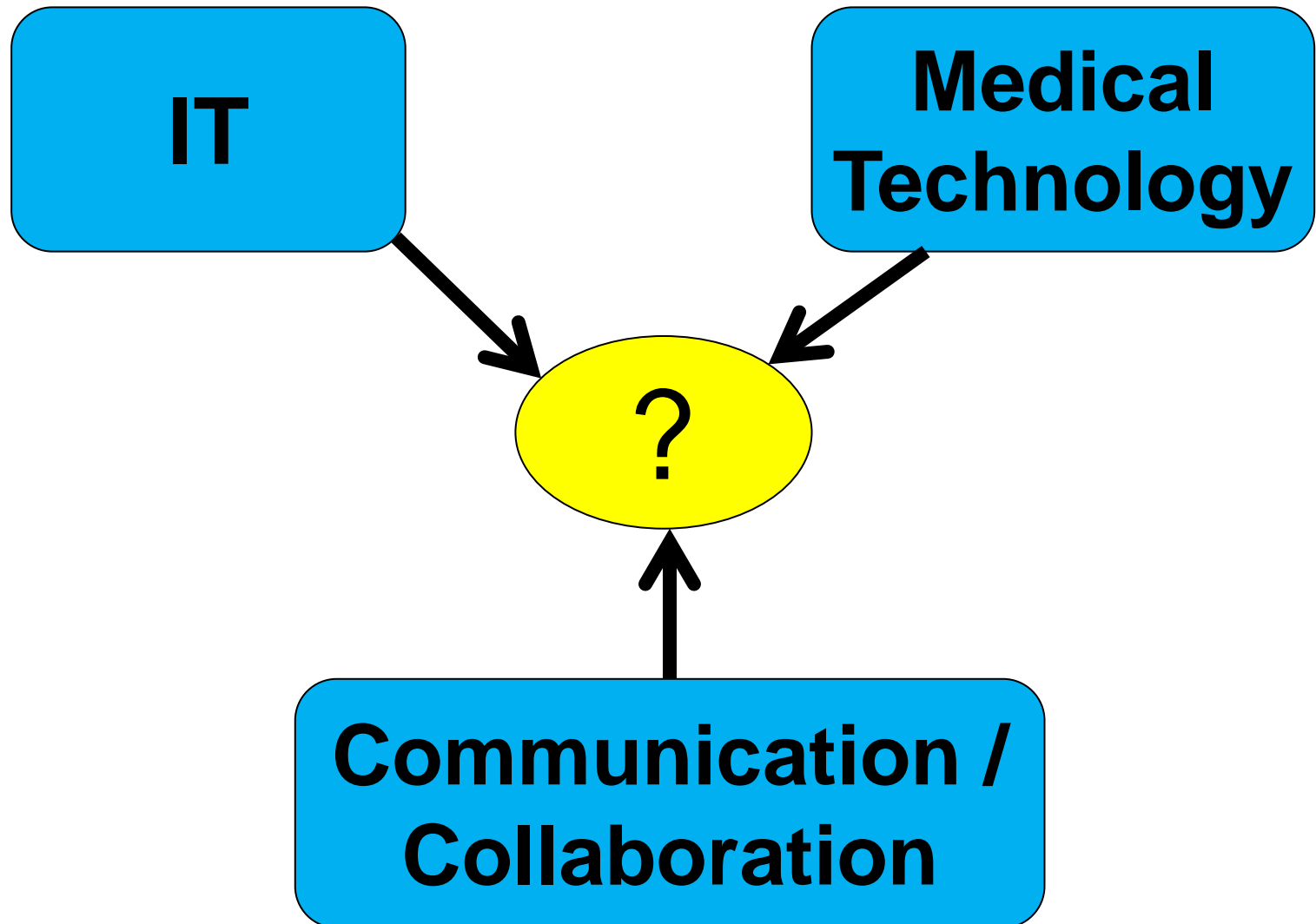
Sources: 1 – Google/Manhattan Research, 2 – Manhattan Research, 3 – Google/Manhattan Research, 4 – Float Mobile Learning, 5 – Prism Healthcare, 6 – EPG Media, 7 – EPG Media, 8 – DocCheck, 9 – DocCheck

Mobile App is not enough

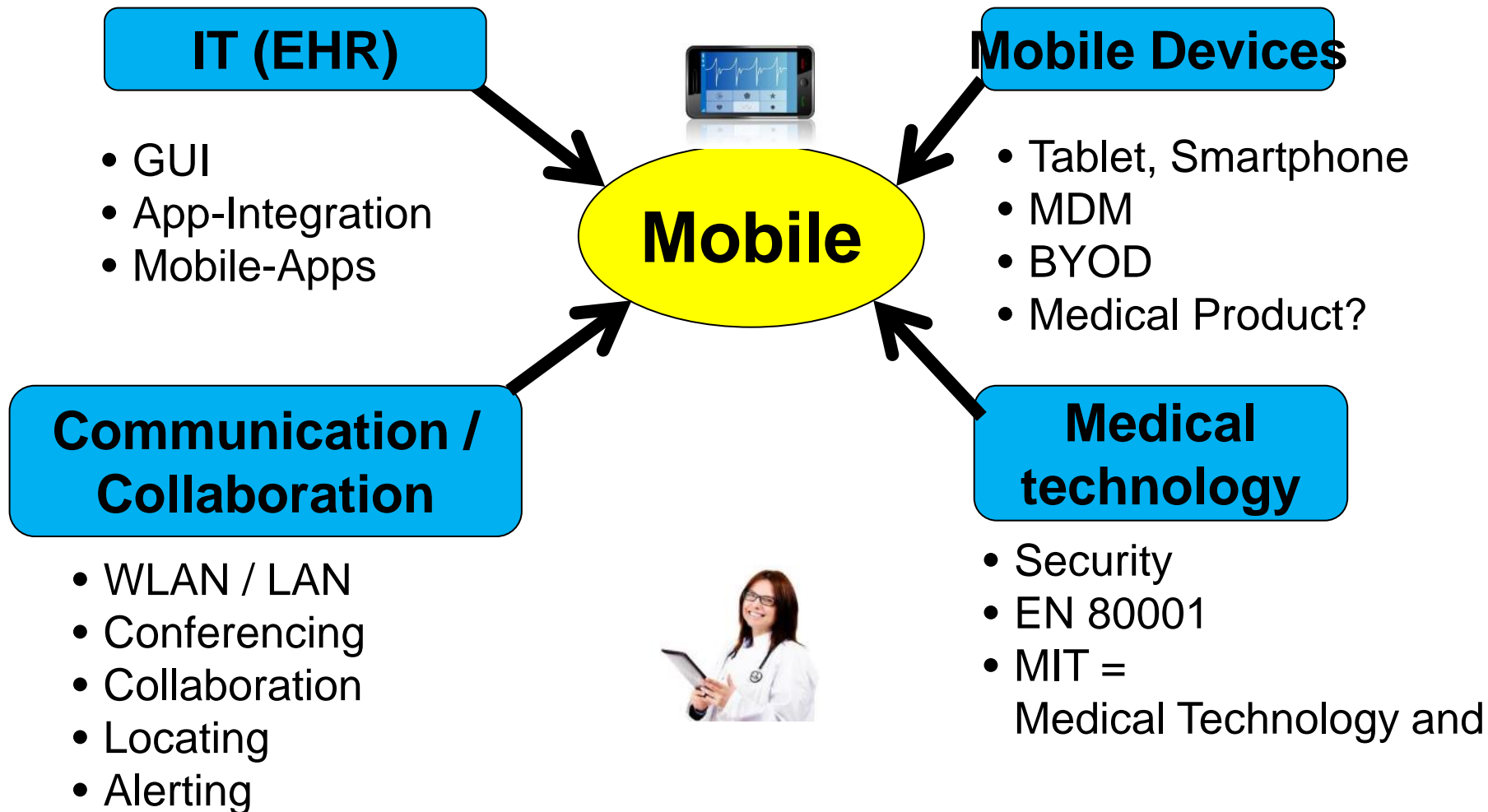
What is the right strategy for mobile Health?

- **Hospitals have to choose the right mobile strategy and platform**
- **Hospitals have to choose the right mobile applications**
- **Hospitals have to change their processes for mobile applications**

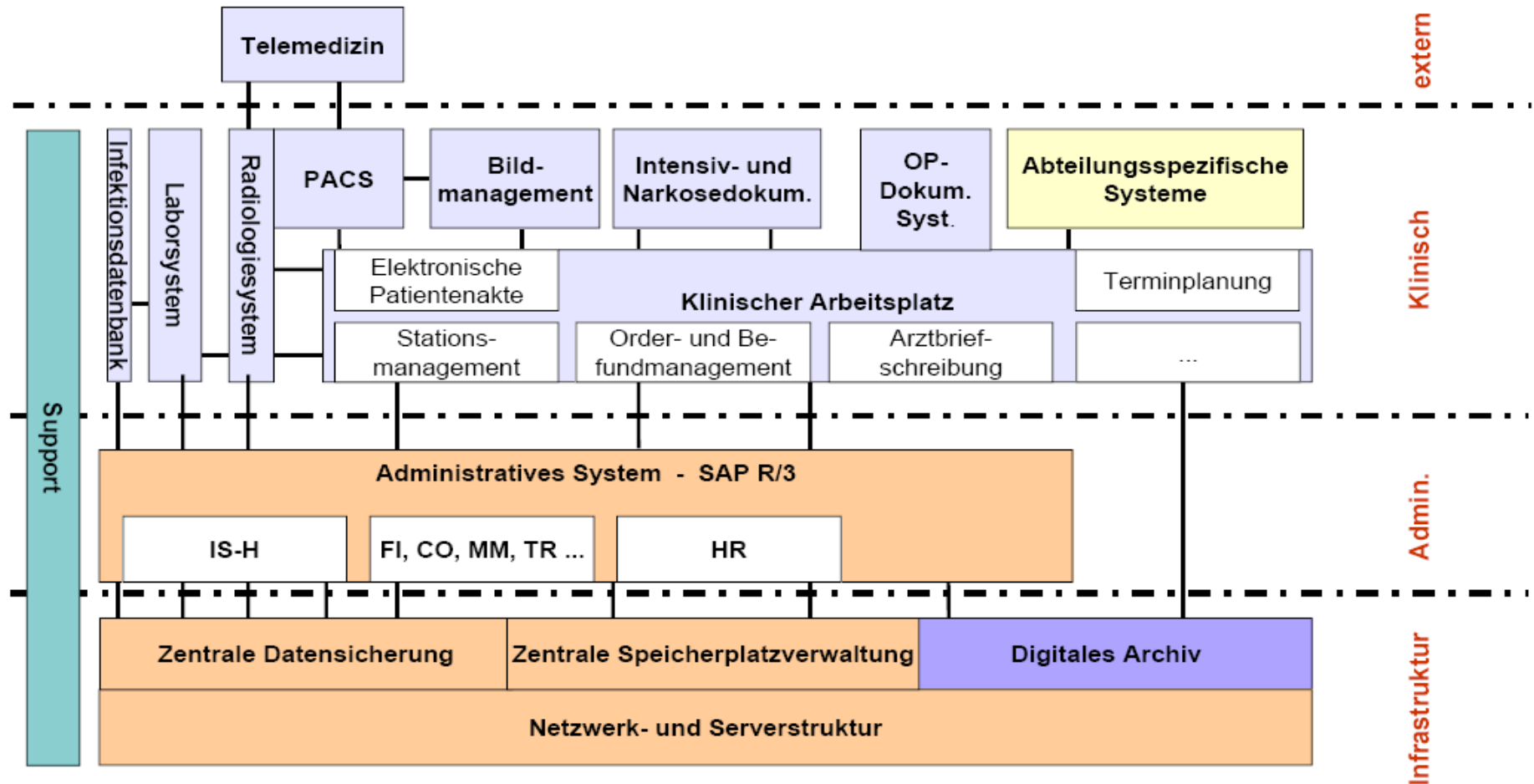
ICT – current issues



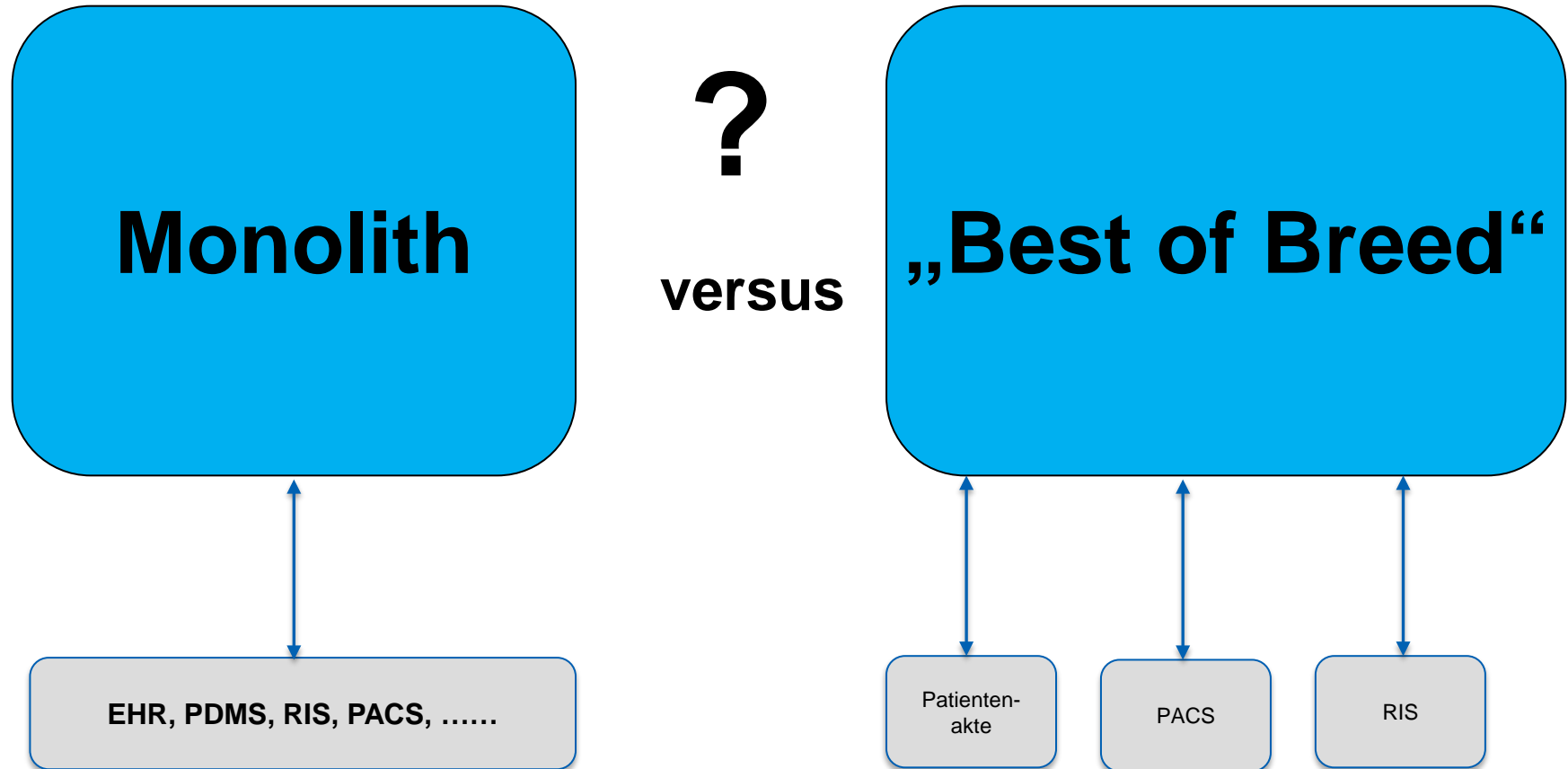
What is the right strategy for mHealth?



IT-Concept – Example (SAP based)



Philosophy Healthcare ICT



IT-Situation – Archive

Archive Patient Records (Ist-Situation)

Paper dominated as well:



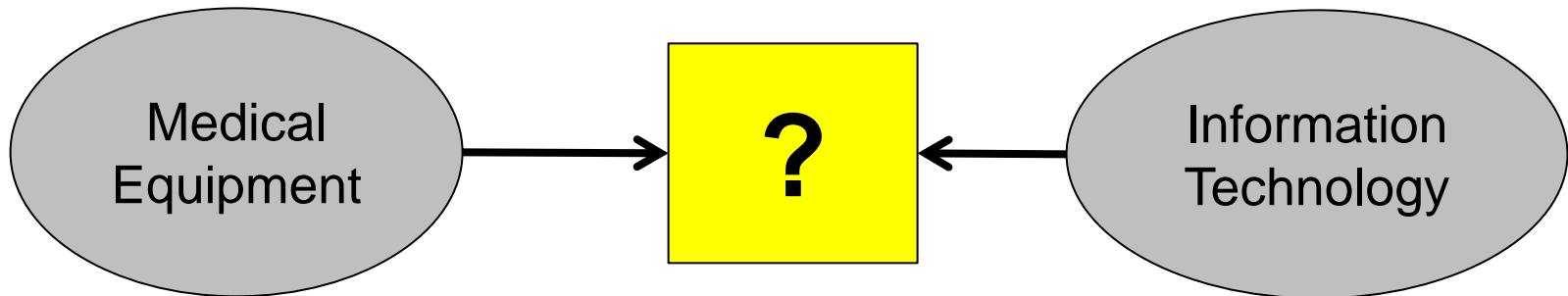
ICT - Information and Communication

Hype-Topics of 2014 in Healthcare for Hospitals:

- **How do the Hospital Information Systems in the future look like?**
- **How are the main IT-supported processes designed?**
- **Which is the role of Mobility?**

ICT - Information and Communication

- As in other countries there is also in Germany a **trend towards regional, hospital-wide IT solutions**
- **Convergence of medical technology, Life-Science and IT**



Mobile Computing im Gesundheitswesen

SO:



or SO:



Mobile Computing

Why „Mobile Computing“?

- Zugriff auf Online-Akte, ortsunabhängig
- Datenerfassung am Point-of-Care
- Verzicht auf Papier
- etc.



Process Optimization is necessary!

Not every device is suitable for each process!

Communication changes?



- Various communication channels
- Different Systems
- Problem: Too many devices and different user interfaces

Which is the best mobile device?

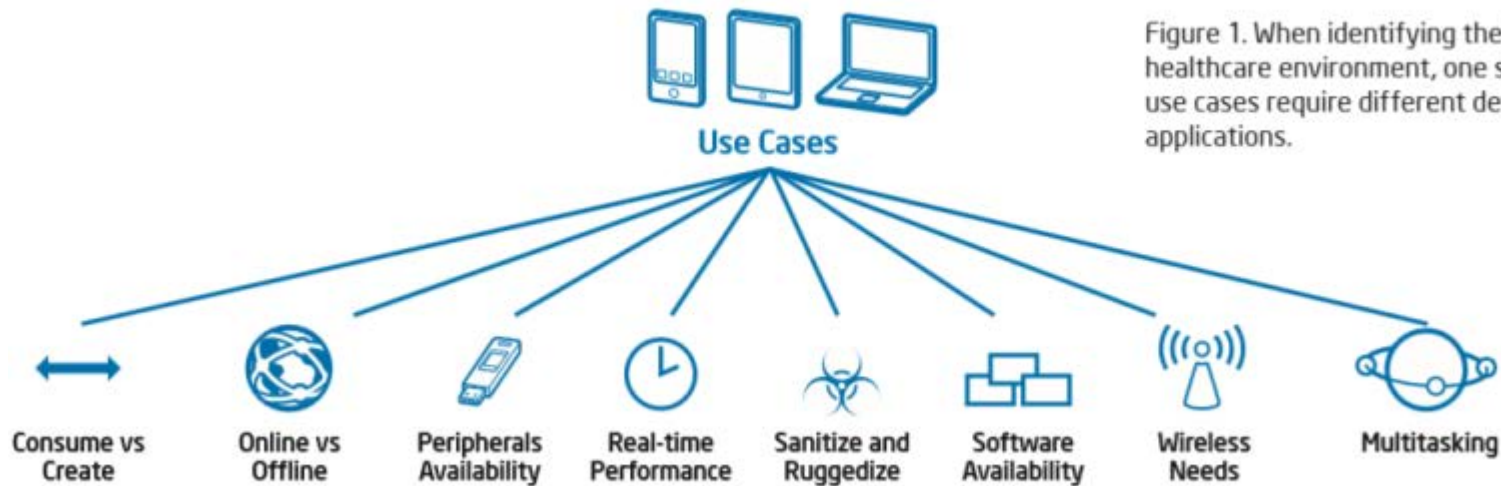










Figure 1. When identifying the best mobile device for a healthcare environment, one size does not fit all. Different use cases require different device capabilities and applications.

Quelle: Intel

Welches Gerät wofür?

	RECOMMENDED DEVICE	
	PRIMARY	SECONDARY
Hospital-based Physician	 Tablet	n/a
Office-based Physician	 Tablet	 Ultrabook
Hospital-based Nurse	 Ultrabook	 Mobile Clinical Assistant
Office-based Nurse	 Ultrabook	n/a
Allied Health Worker (PTs, OTs, etc.)	 Netbook	 Smartphone



Quelle: Intel

EHR - Mobile Data Access

Mobile Infrastructure is necessary !



Touch and App



My Philosophy:

- the personal mobile device will prevail, but which one?
- die richtigen Anwendungen entstehen gerade erst.
- Integrationplattformen (Frameworks) are necessary!
- Choose the right device für each process



Open, flexible architecture



SAP EMR Unwired



Strategy: ICT and UCC

IP-Communication: Communications und Collaboration im Healthcare System



ICT-Strategy

UCC: Unified Communications und Collaboration

- UC Devices :

Example:

Avaya Flare

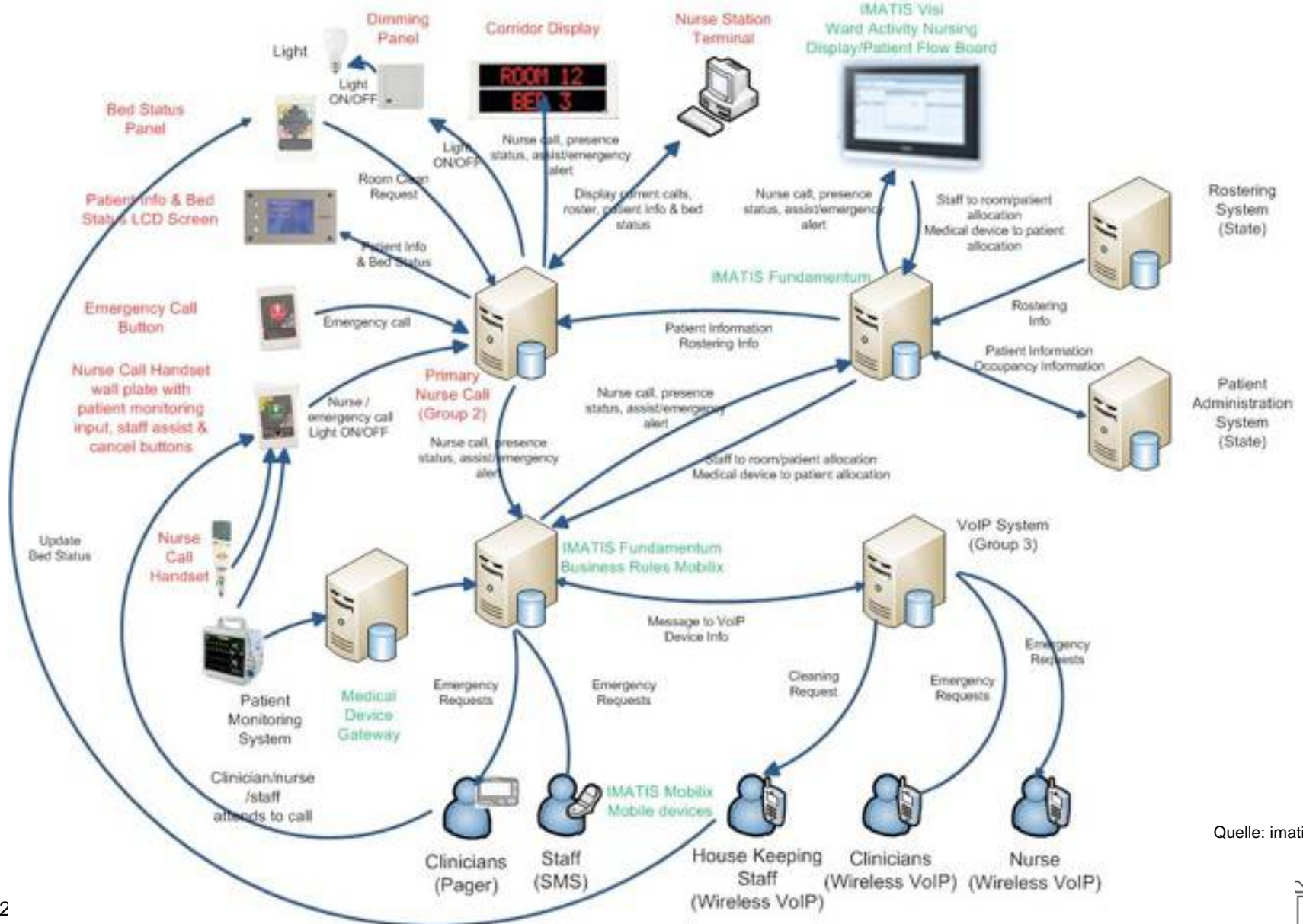


Process Optimization with Mobile Devices:

which processes are relevant for the success of a hospital?

- Patient Workflow
- Computerized Physician Order Entry (CPOE)
- Quality Assurance
- Medication, Drug Safety
- No Use of Paper Documentation, Online-Documentation,
- Medical Reports,
- Time Management,
- Medical Controlling,
- Integration of Medical Technology,
- User Authentication (Single-Sign-On)
- ?

Prozessoptimierung



Quelle: imatis.com

Benefit of Mobile Processes (Ex.)

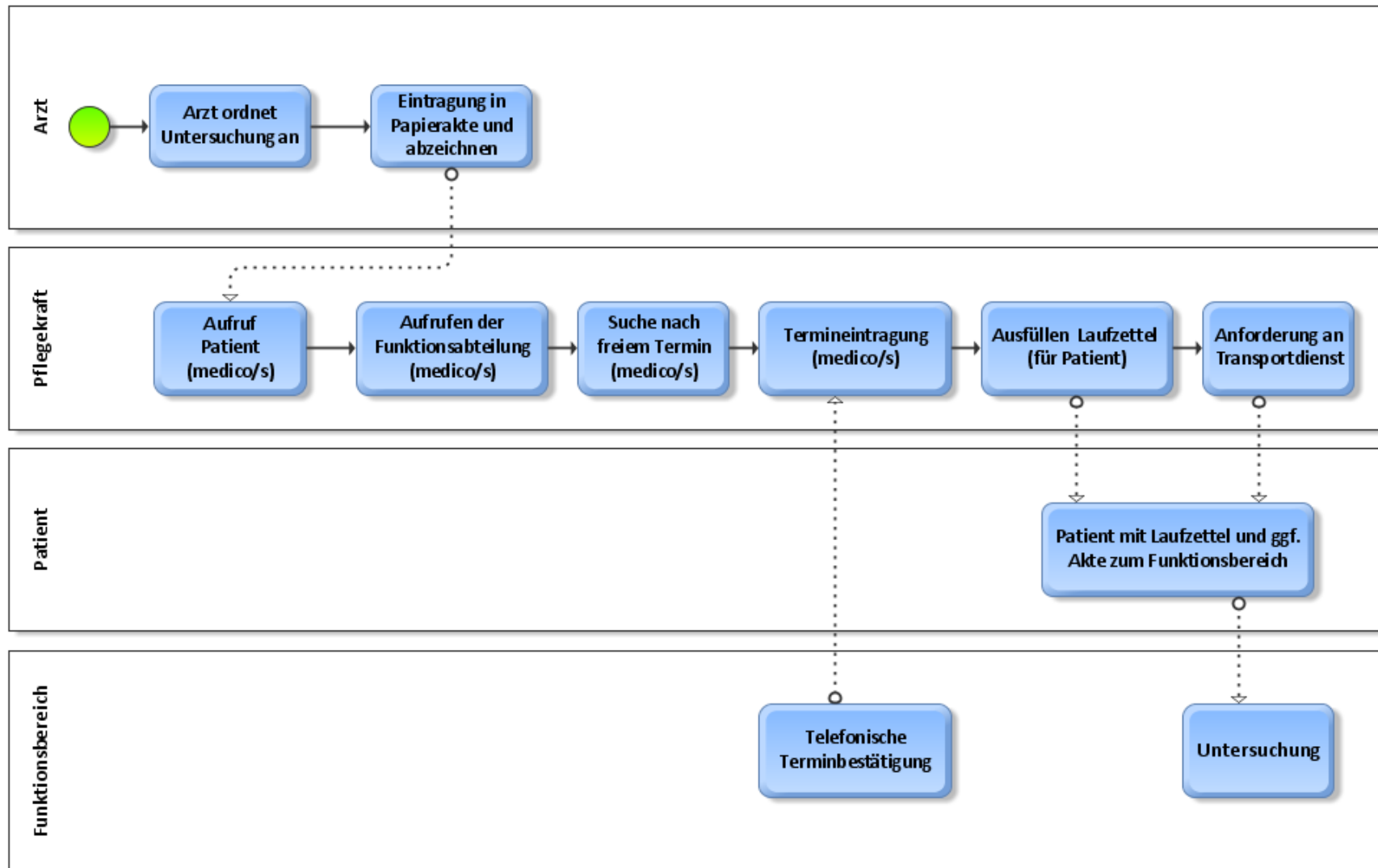
Process	Benefit	Priority
Initial Medical Examination :	medium	+
Time Management:	high	+++
Mobile EHR (Documentation):	High	+++
Nursing Documentation:	high	+++
Order-Entry (Communication):	high	+++
Viewing (PACS):	high	+++
Pharmaceuticals / Medical History:	high	+++
Medication:	high	+++
Patient Dismissal:	medium	+
Patient Information:	high	+++

Benefit of Mobile Processes (Ex.)

Process	Benefit	Priority
Delivery Service:	high	+++
Menu Acquisition:	high	+++
Medical Technology and Services:	medium	++
Patient Internet Services:	low	--

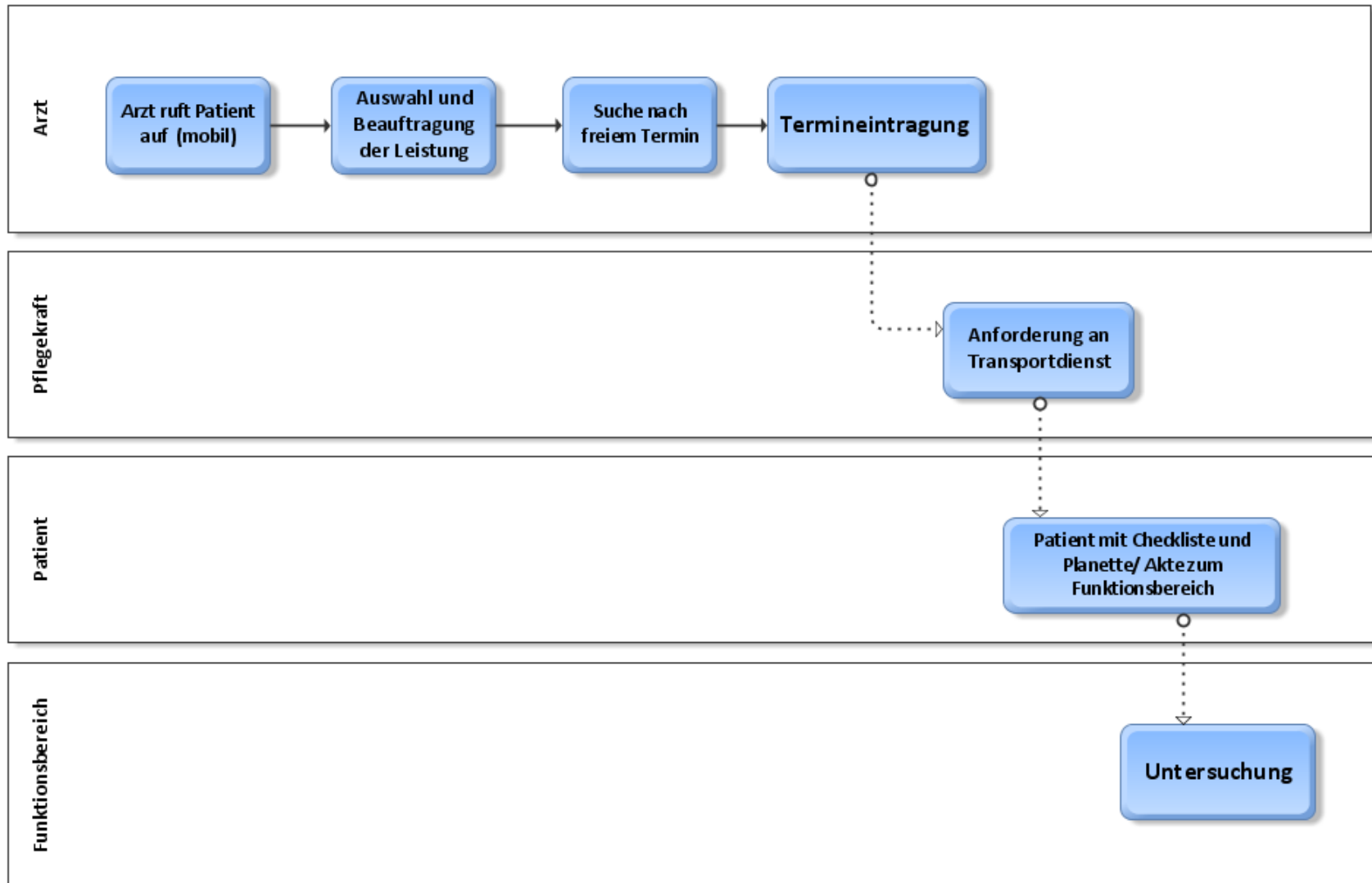
Current Process (Ex.)

Leistungsanforderung/ Order - Muster-Workflow alt



Mobile Process (Ex.)

Mobile Leistungsanforderung/ Order - Muster-Workflow



Economic Efficiency of Mobility

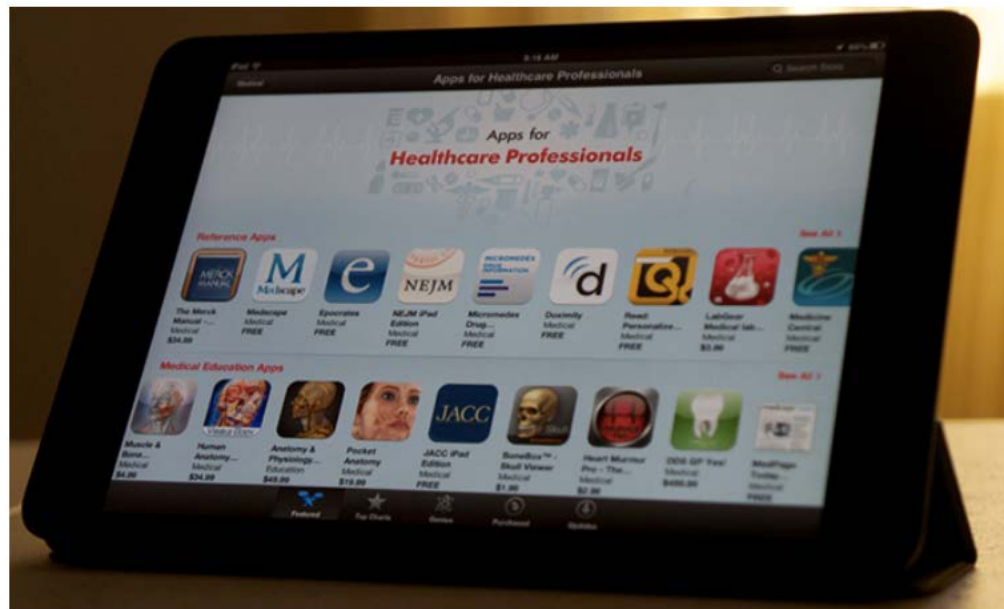
Tuesday, June 04, 2013, 08:31 am PT (11:31 am ET)



Hospital sees return on Apple iPad investment in 9 days - report

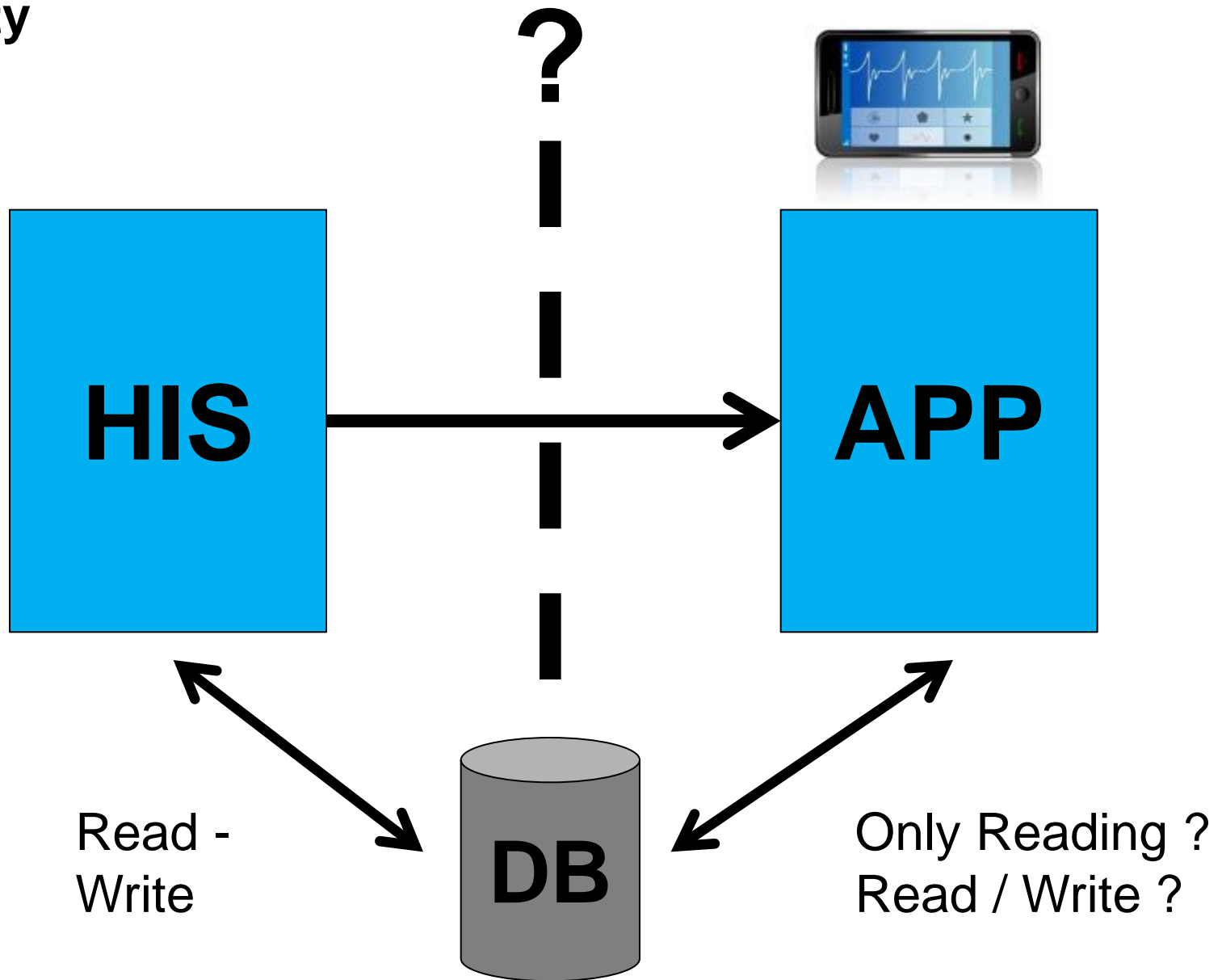
By [Kevin Bostic](#)

Recent studies have demonstrated the popularity of the iPad among physicians, and now a new report describes how one hospital found that Apple's tablet can pay for itself in just nine days of use.

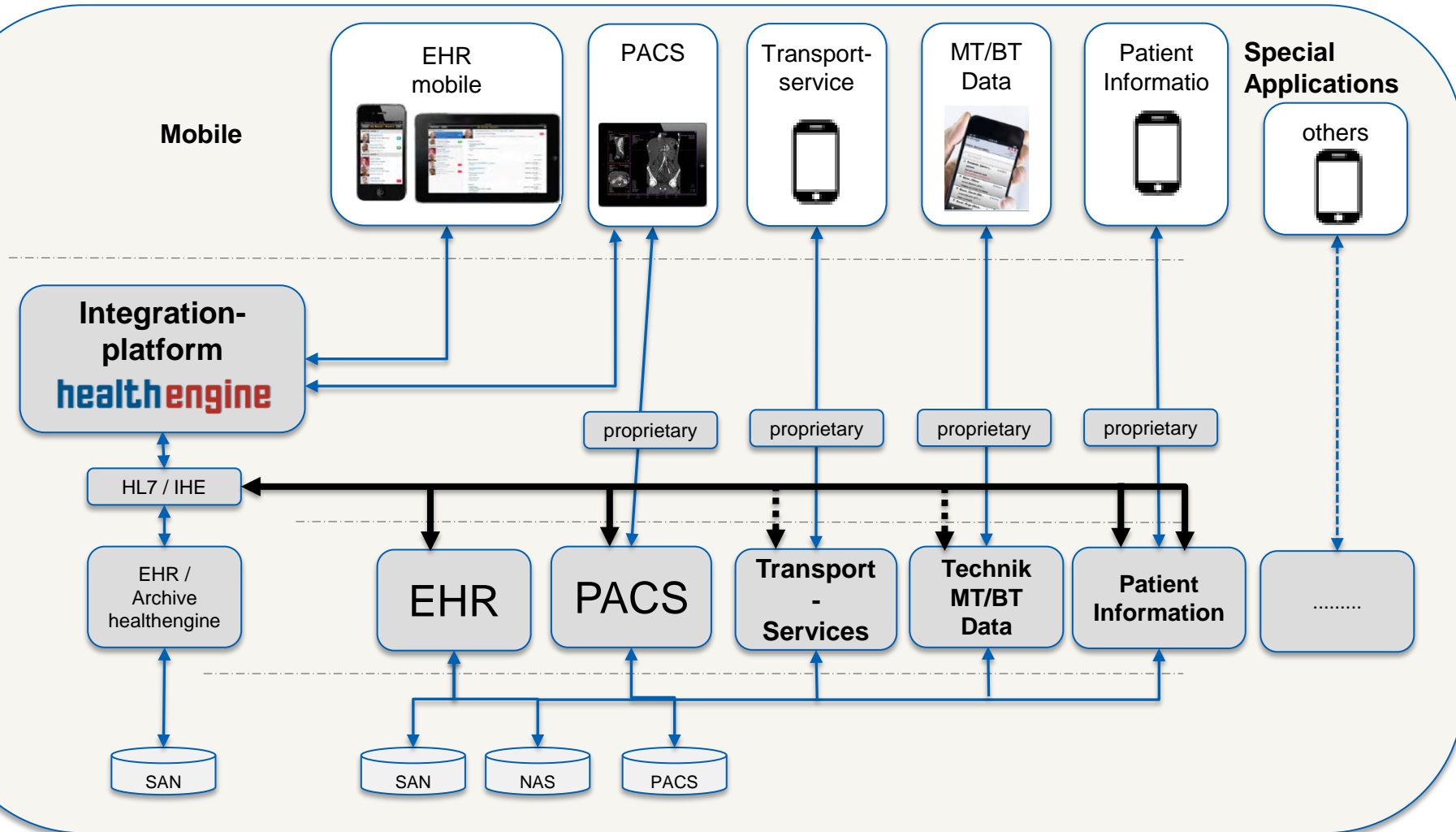


Mobile Strategy and Integration Platform for Healthcare

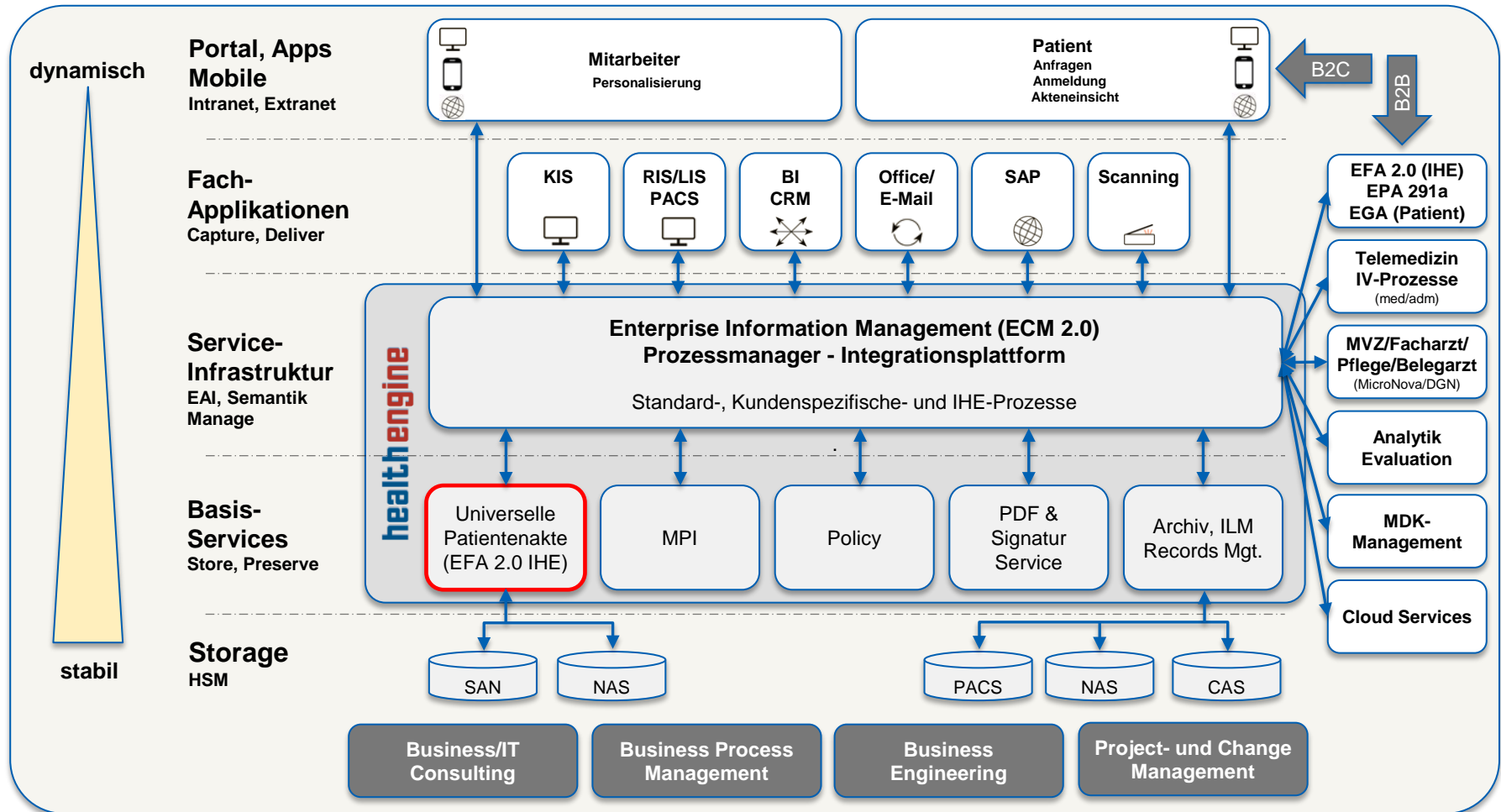
Mobility



IT-Architecture for Mobility



The *health engine* as a heart of flexible networking



IfK - Institut for Hospital Management

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More Webpages:

www.eHealthMobile.de

www.Meeting-am-Meer.de

www.Meeting-am-Mountain.de

Thank you for your attention



Any Questions?

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