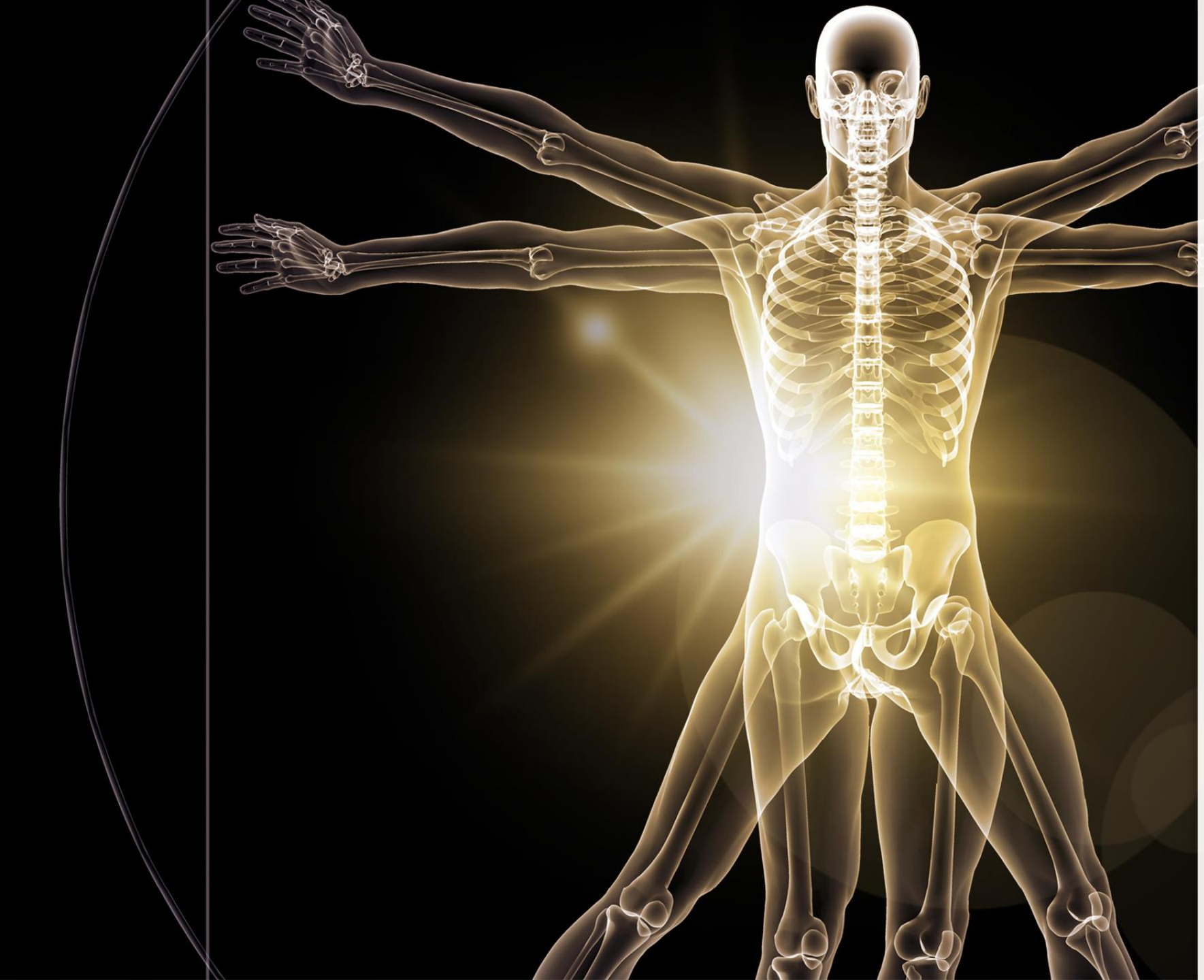


IS3R 2023

Berlin/Germany

August 24–26, 2023

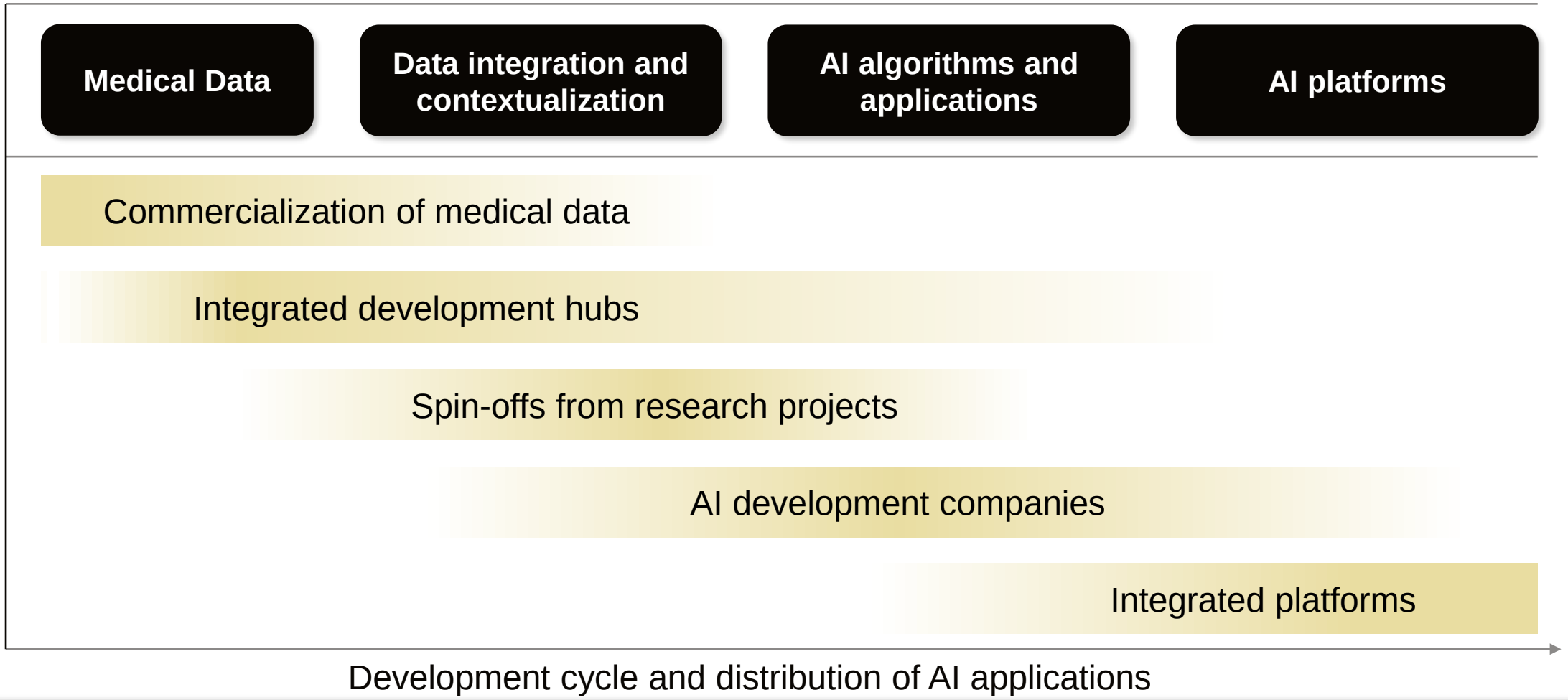
How will various AI business models affect AI adoption and success?

Prof. Dr.
Stefan Schönberg

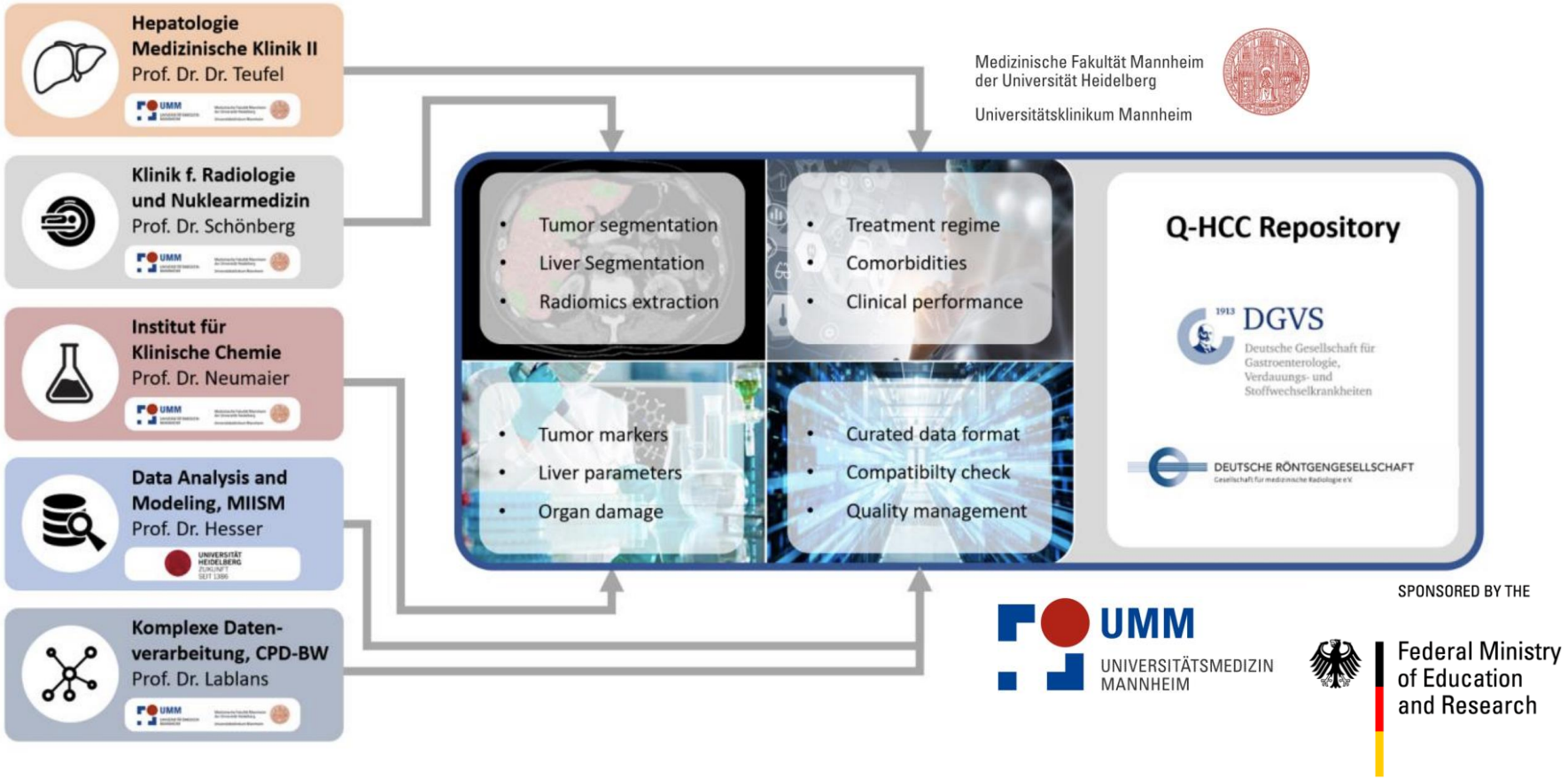
Director and Chair,
Department of Radiology
and Nuclear Medicine

University Medical Center
Mannheim

Business models of AI in radiology



Open data and AI: The Q-HCC project



- Data curation in experts‘ hands
- Structured and annotated multimodal medical data
- Quality control to avoid risks of bias, privacy and security

From commercialization of medical data to clinical testing of digital health apps

Inspire Living Lab Mannheim

- Hospital as a service contractor for AI developers
- Clinical framework for development of digital health applications
- Support of the entire workflow from provision of data to testing of algorithms

inspire LIVING LAB
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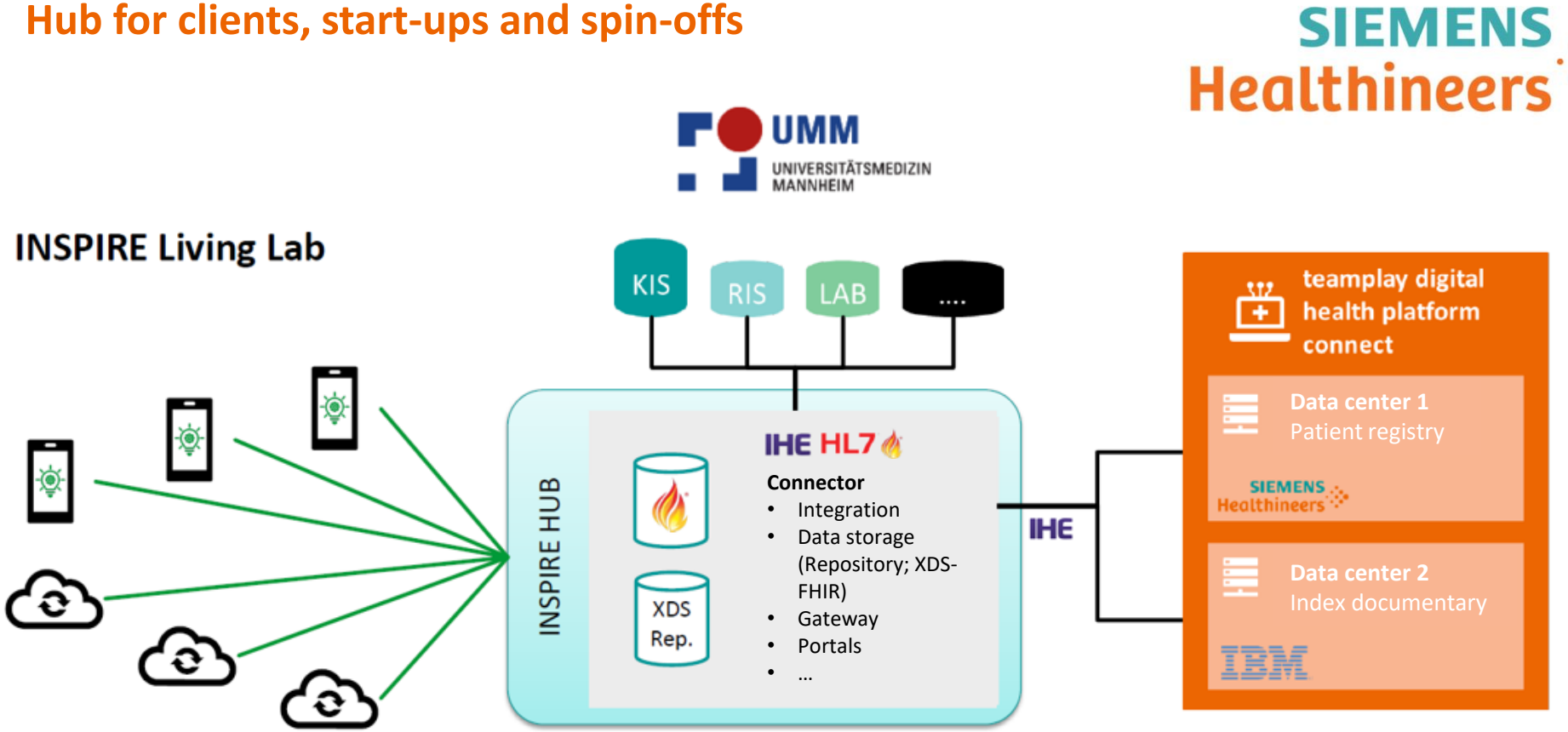
Inspire Living Lab Mannheim

Hub for clients, start-ups and spin-offs



SIEMENS Healthineers

UMM UNIVERSITÄTSMEDIZIN MANNHEIM

Medizinische Fakultät Mannheim der Universität Heidelberg

Universitätsklinikum Mannheim

hochschule mannheim

MANNHEIM² Medical Technology Cluster

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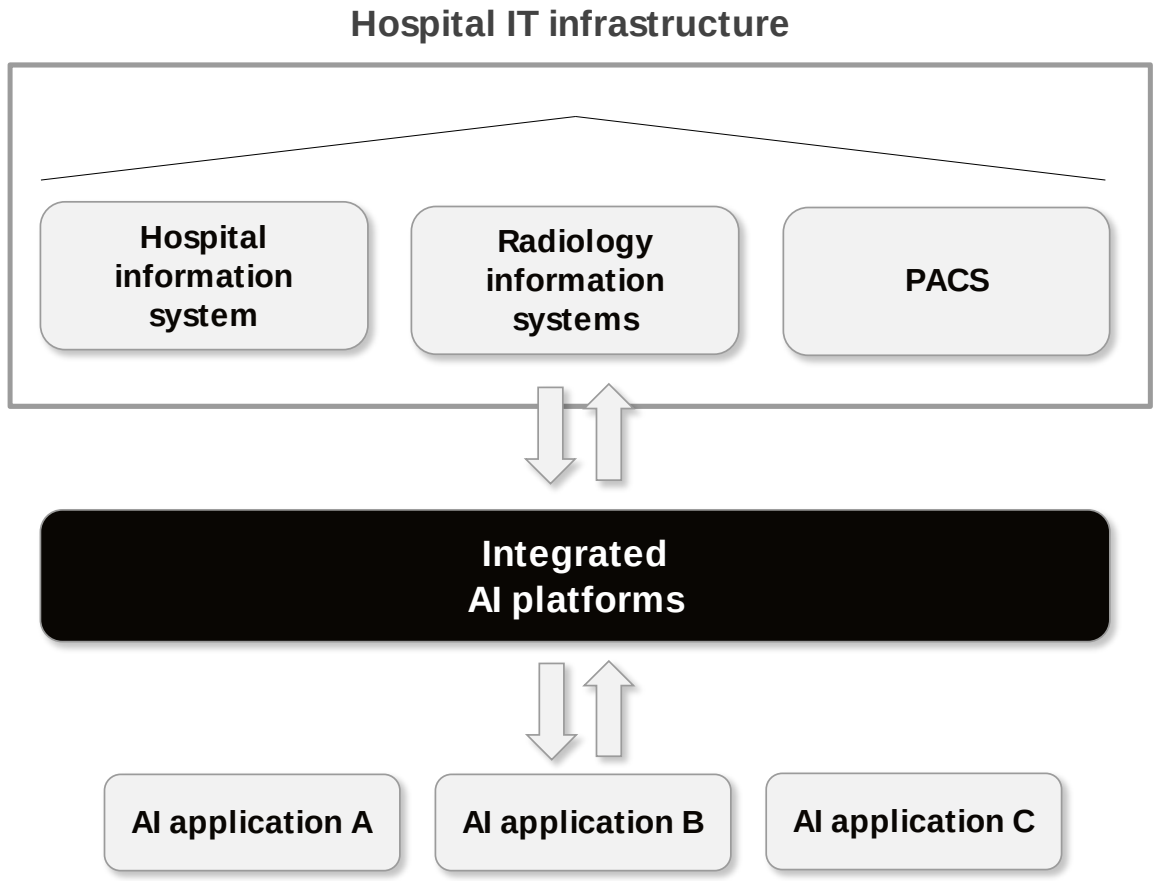
KKS HEIDELBERG

metecon your regulatory compliance partner

Research spin-off: QUIBIM

- Cloud-based AI platform
- Integrated pipeline from deidentification to quantitative image analysis to prediction and biomarker panels
- Spin-off from University of Valencia
- FDA, UKCA, and CE mark-cleared (in part)
- Applications for prostate, brain, liver, breast and lung

Integration of AI applications

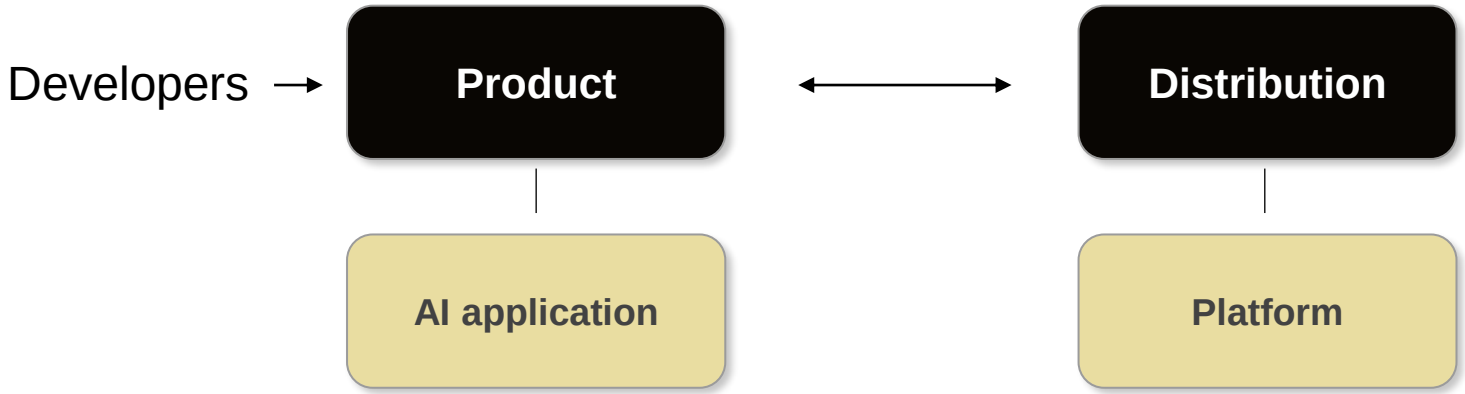


Local platforms (on-premise) ⟷ **Cloud-based platforms**

Dimensions

- Control
- Data security and protection
- Compliance
- Maintenance
- Health data management

Platform-based distribution of AI applications



- Delivered via platform
- Algorithm-centered
- Licensing models

- Integration into hospital infrastructure
- Fully-established interfaces
- Data storage concepts

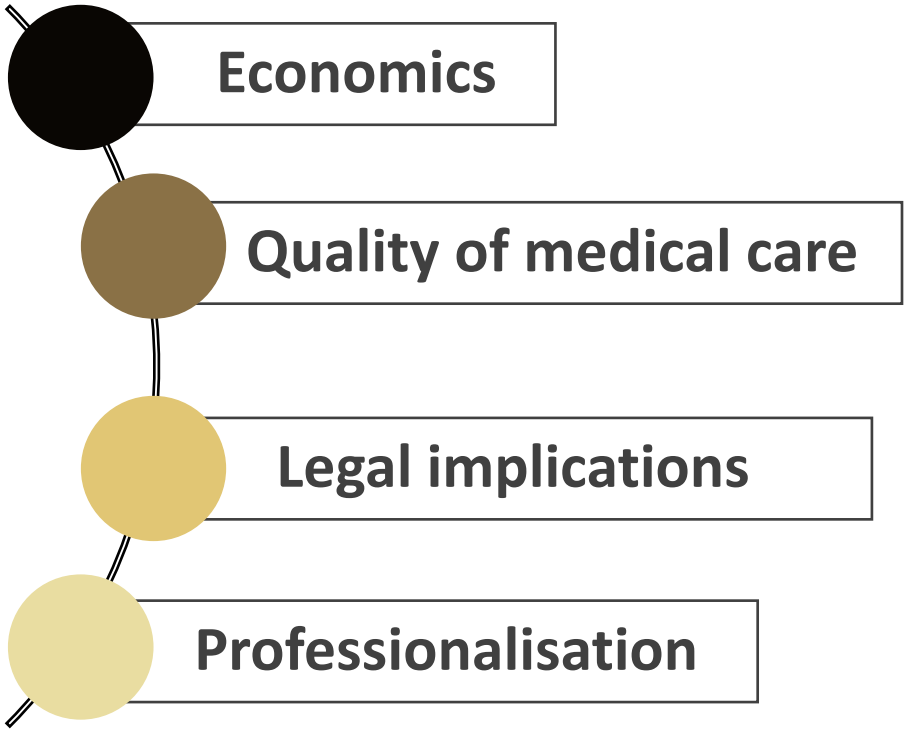
INCEPTO

deepc

- **Developers can focus on algorithms and AI development**
- **Distribution and implementation of algorithms via platform-solutions**

Capturing the impact of AI solutions on radiology departments and hospitals

Dimensions



- Workflow optimization
- Increase in efficiency

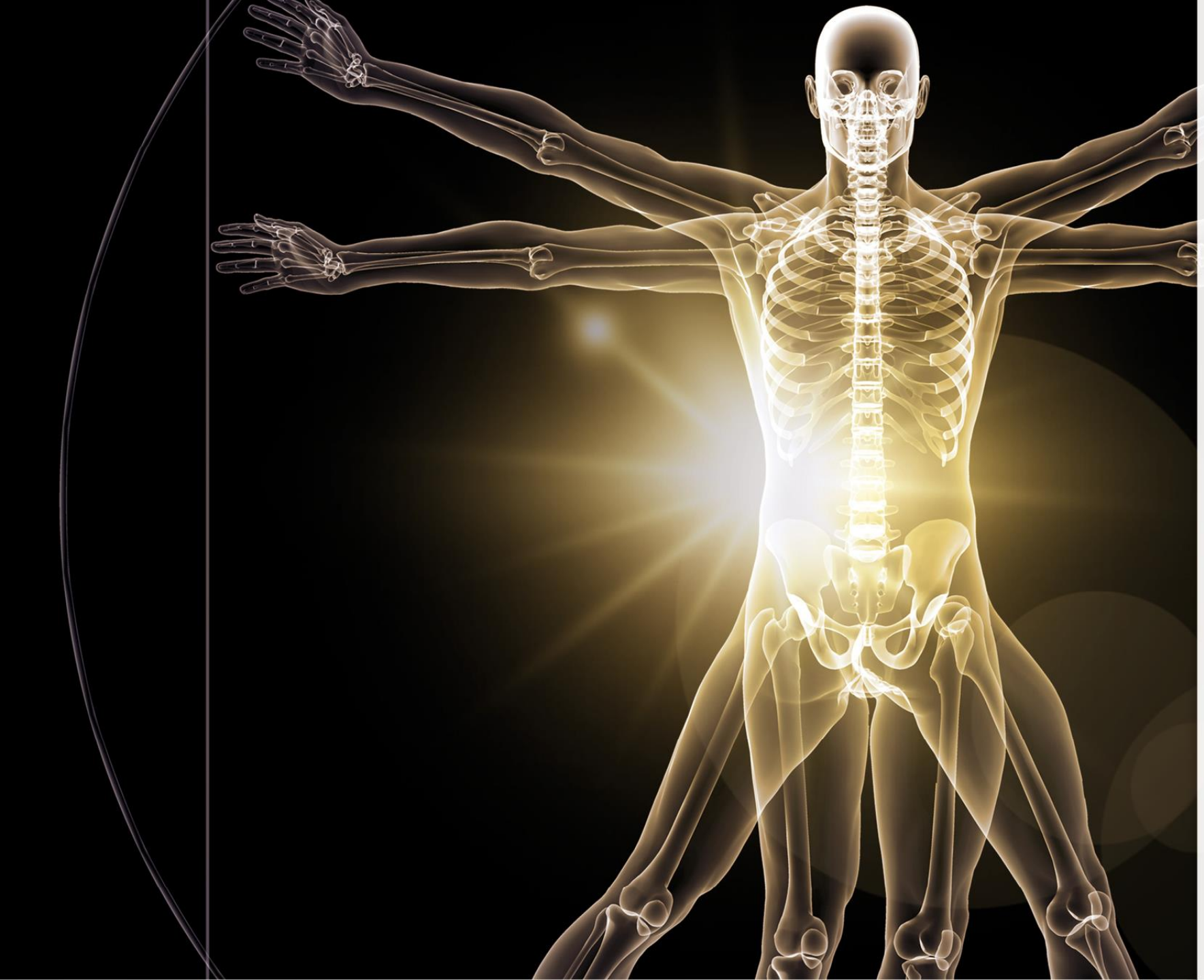
- Synergy of human and artificial intelligence
- Medical error rates
- Patient satisfaction

- Compliance and legal certainty
- Shift of standards

- Self-conception of radiologists
- Data stewardship

Summary

	Medical Data	Data integration and contextualization	AI algorithms and applications	AI platforms
AI adoption	**Commercialization of medical data** • Representative medical data from real-world medical care **Integrated AI development hubs enable data collection and contextualization** • Facilitation of IT infrastructures • Enablement of certification process		**Specialization** • Precision of AI-based assessments • Medical need vs. economic need **Compatibility and interfaces with hospital IT** • Standard interfaces HL7/FHIR • Established platforms (on-premise) vs. cloud-based applications	**Health data management** Data protection and storage ➢ Harmonization of user experience
AI success	**Added value by high-quality medical data** • Availability and accessibility of data • Validity of AI algorithms and accuracy of predictions ➢ Increased cost-effectiveness of medical care		**Economics** • Return on investment • Gains in efficiency and legal certainty **Acceleration of workflows:** User acceptance **Optimizing risk structure by reduced error rates:** Synergy of human and artificial intelligence	



Stefan O. Schönberg

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