



Robots as service providers

Insight into current application projects from an organizational and user perspective

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Who we are



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FM in HC – Service Allocation Model

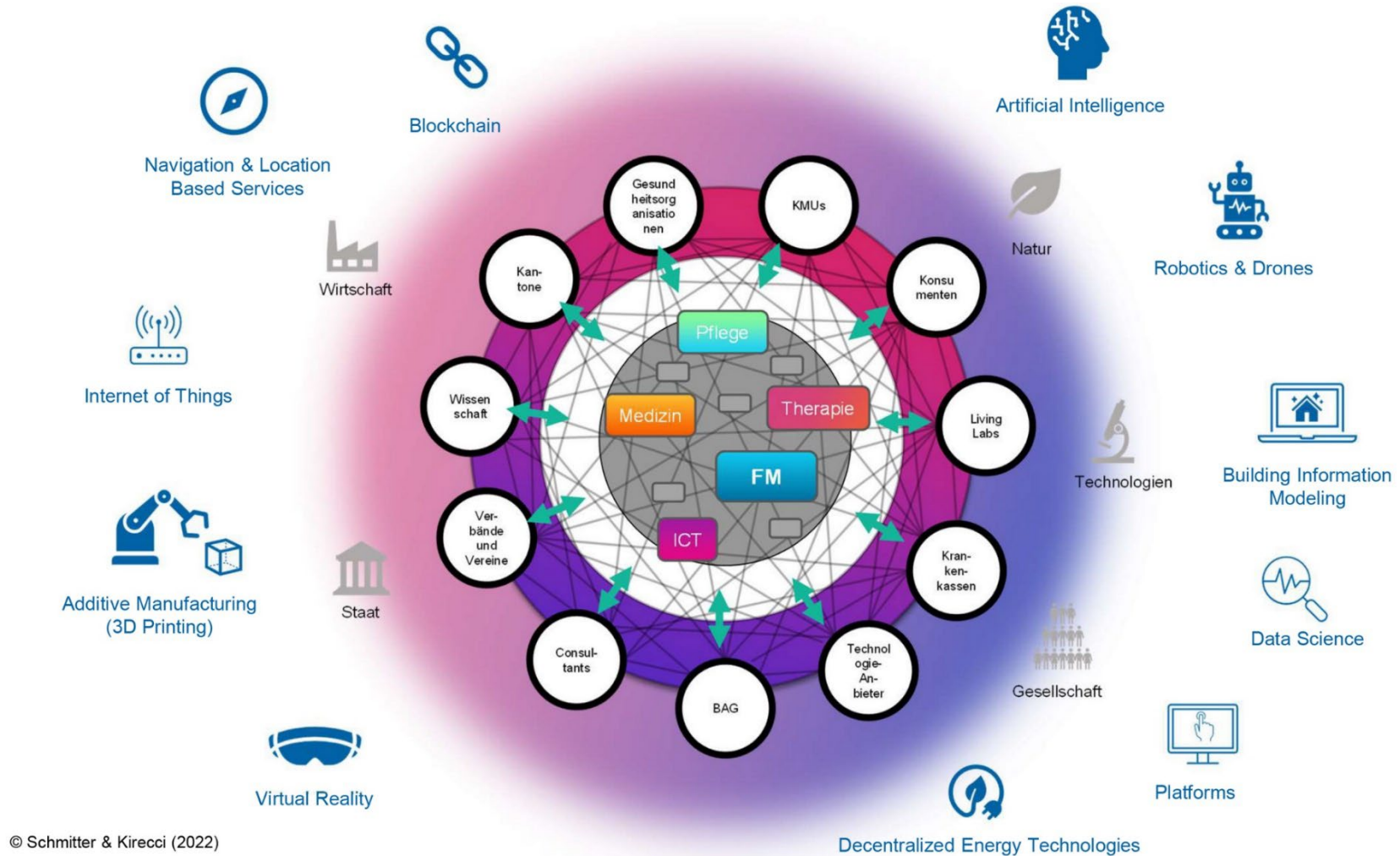
Strategic management services Sustainability Life-cycle planning/ engineering; Environmental mgmt. system; Energy mgmt.; Environmental protection activities Quality management Quality mgmt. strategy; Defining standards & guidelines; Process-; Structure/Potential-; Result quality mgmt. Risk management Risk mgmt. policy; Contingency planning for extraordinary incidents; Error mgmt.			Corporate identity Corporate identity strategy Resources / Sourcing management Strategic resource mgmt.; Pricing/ Negotiation strategy; Innovation support Asset/Portfolio strategy Business model development-; Financing-; Investment-; Portfolio-; Multi-portfolio mgmt. - & programm mgmt.-; Cooperation-; Research & development strategy ICT management ICT mgmt. strategy	Project management
Management support services Finance & Controlling External accounting/ Financial accounting; Internal accounting/Controlling, Reporting Human Resource Management Personnel administration; - planning; - controlling; Recruiting/ Dismissal; HRM; Employee assessment/ surveys; Personnel training & development Legal counsel & contracts Legal advice; Patents and copyrights; Insurance; Contracts mgmt.; Representation before courts & authorities Marketing & Communication Marketing & Communication serv. Secretarial services Secretarial services; Translations; Reprographics; Travel serv.			ICT services ICT workplace services Elektronic workplace-; Telephony/ (smart) device serv. Medical business process application services (HIS) Patient dossier mgmt. & documentation appl. serv.; Diagnostic appl. serv.; Patient related resource planning appl. serv.; Med./therapeutic/ nursing decision support appl. serv. Non-medical management & support application services Strat. mgmt. decision support appl. serv.; ERP appl. serv.	
Non-medical support services Logistics Procurement Internal ordering; Operational-; Tactical procurement Storage Inspection of incoming goods; Warehouse mgmt.; Order-picking Transport services & distribution External/Internal people transport serv.; Transport serv. & distribution of goods; Post room and internal distribution; Relocations; Fleet mgmt. Disposal & Recycling Tactical resource management Infrastructure Operation & preventative maintenance Immovable non-/ medical property, plant and equipment; Non-/ Medical movables; Outdoors; Helpdesk & Janitor services; Occupier fit-out & adaptations Space management & provision Space (accommodation) provision & mgmt.; Property administration; Provision of workplaces Supply and disposal of energy & water Hygiene, Safety & Security Cleaning & Disinfection Routine -; Intermediate -; Basic -; Special cleaning Preparation of medical products Sterilization serv. Ensuring of health & safety Ensuring workplace safety & health protection Security Securing people; Fire -; Object -; Information protection Hotel services Catering Patient & resident-; Staff-; Guest catering; Vending serv.; External & Event Catering Provision of textiles Laundry serv. & Repair of textiles; Patients' & residents' -; Operating's -; Special laundry; Work clothing & Special laundry; Laundry serv. for third parties Accommodation management & operation of properties Staff/ Guest accommodations; Patient/ Guest hotel; On-call rooms accommodation mgmt. Various hotel services Reception & contact center serv.; Cloakroom operation & mgmt.; Event mgmt.; In-house operation of kiosks & shops; Childcare; Non-medical patient support; Non-medical library & archives				

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Version 4.1

(Source: <https://www.zhaw.ch/en/lsm/institutes-centres/ifm/about-us/hospitality-service-management/fm-in-healthcare/lekas/#&gid=1&pid=1>)

Digital Transformation for FM in HC



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Robotics in FM in HC



Non-medical support services

Logistics

Procurement

Internal ordering;
Operational-; Tactical procurement

Storage

Inspection of incoming goods;
Warehouse mgmt.; Order-picking

Transport services & distribution

External/Internal people transport serv.; Transport serv. & distribution of goods; Post room and internal distribution; Relocations; Fleet mgmt.

Disposal & Recycling

Tactical resource management

Infrastructure

Operation & preventative maintenance

Immovable non-/ medical property, plant and equipment; Non-/ Medical movables; Outdoors; Helpdesk & Janitor services; Occupier fit-out & adaptations

Space management & provision

Space (accommodation) provision & mgmt.; Property administration; Provision of workplaces

Supply and disposal of energy & water

Hygiene, Safety & Security

Cleaning & Disinfection

Routine -; Intermediate -;
Basic -; Special cleaning

Preparation of medical products

Sterilization serv.

Ensuring of health & safety

Ensuring workplace safety & health protection

Security

Securing people; Fire -; Object -;
Information protection

Hotel services

Catering

Patient & resident -; Staff -; Guest catering;
Vending serv.; External & Event Catering

Provision of textiles

Laundry serv. & Repair of textiles;
Patients' & residents' -; Operating's -;
Special laundry; Work clothing & Special laundry; Laundry serv. for third parties

Accommodation management & operation of properties

Staff/ Guest accommodations; Patient/ Guest hotel; On-call rooms accommodation mgmt.

Various hotel services

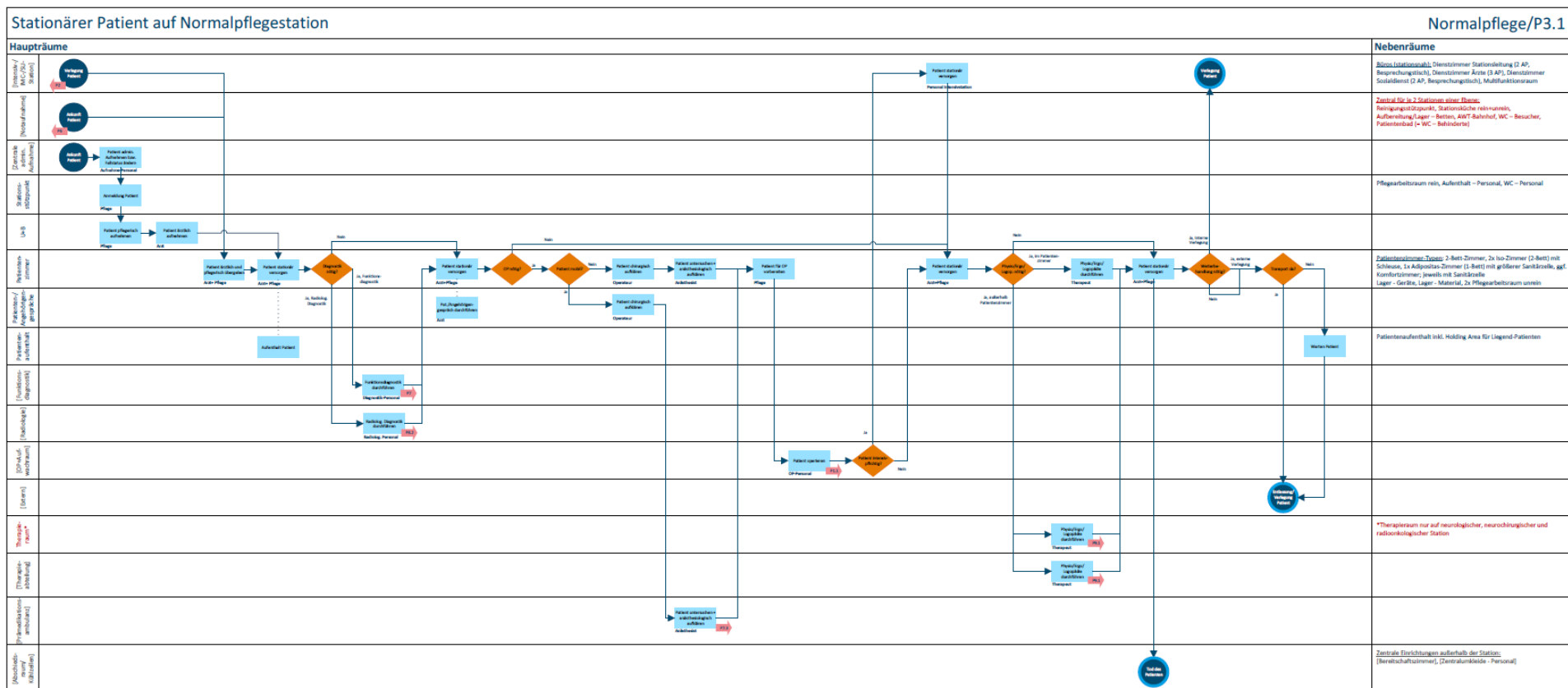
Reception & contact center serv.; Cloakroom operation & mgmt.; Event mgmt.; In-house operation of kiosks & shops; Childcare; Non-medical patient support; Non-medical library & archives

Project

(Source: <https://www.zhaw.ch/en/lspm/institutes-centres/ifm/about-us/hospitality-service-management/fm-in-healthcare/lekas/#&gid=1&pid=1>)

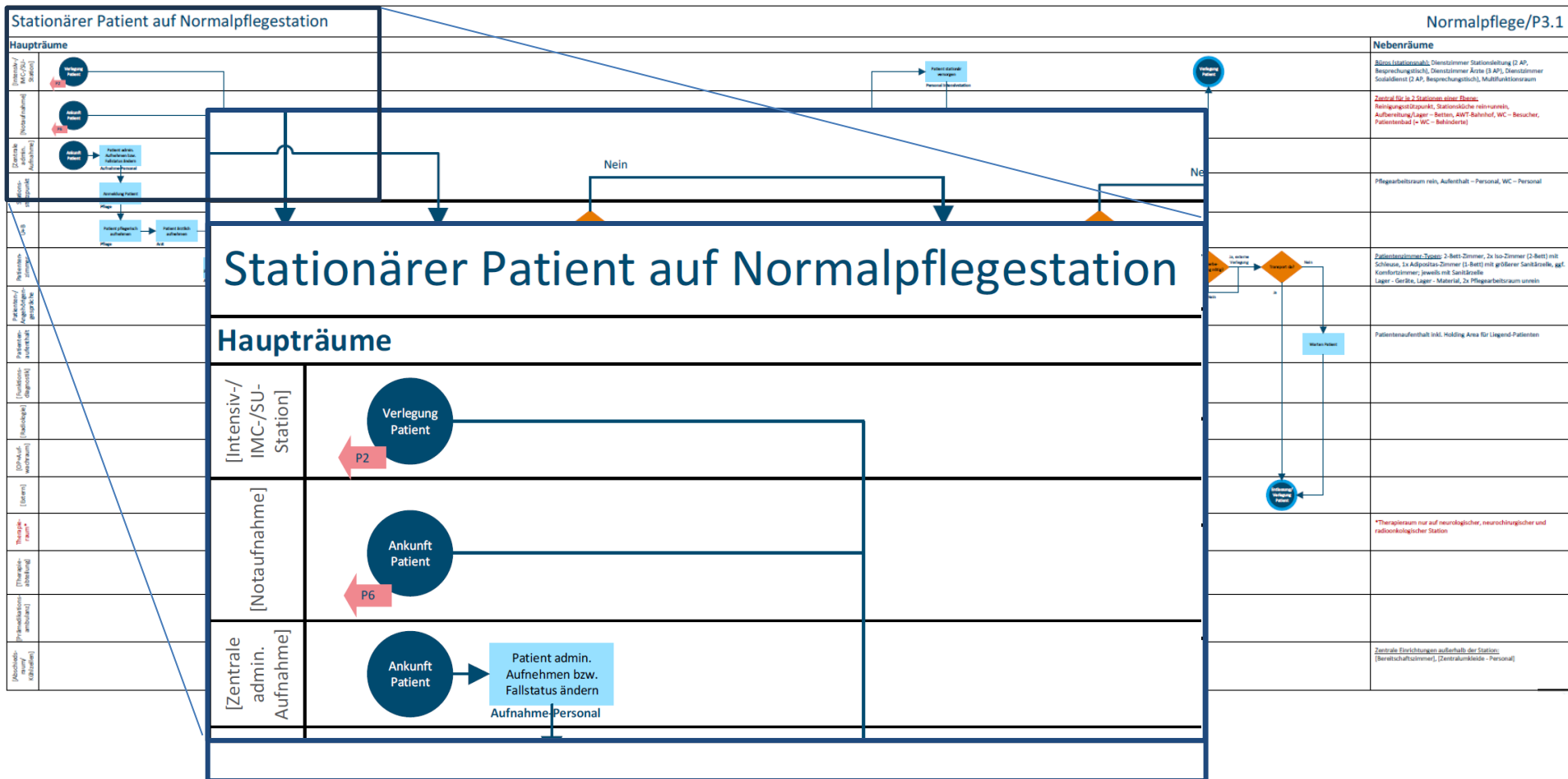
(Image sources: https://www.ipa.fraunhofer.de/de/presse/presseinformationen/servicerobotik_fuer_die_pflege.html, <https://www.informationsethik.net/pflegeroboter-wird-bestseller/>, <https://entrance-robotics.de/entrance-robot-care-unterstuetzung-und-entlastung-in-der-senioren-pflege-durch-robotik-2/>)

Holistic, process- / patient-oriented service provision view I



Example ward: primary processes along a patient's stay

Holistic, process- / patient-oriented service provision view II



Need meets technology

People – Spaces – Technology

Non-medical support services

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Operational-; Tactical procurement

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Non-medical library & archives

Current project contexts

- Implementation criteria of service robots in hospitals and care homes
- User experience / acceptance criteria in the development of future service robots
- Development of national and international networks and ecosystems
- Special needs for dementia robots

Contact information

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