



*Johnson & Johnson*

# Surgery at its best, every time.

**HEALTH – THE DIGITAL LEADERS**

**Michael Erdtmann**

**Managing Director, Surgical Process Institute**



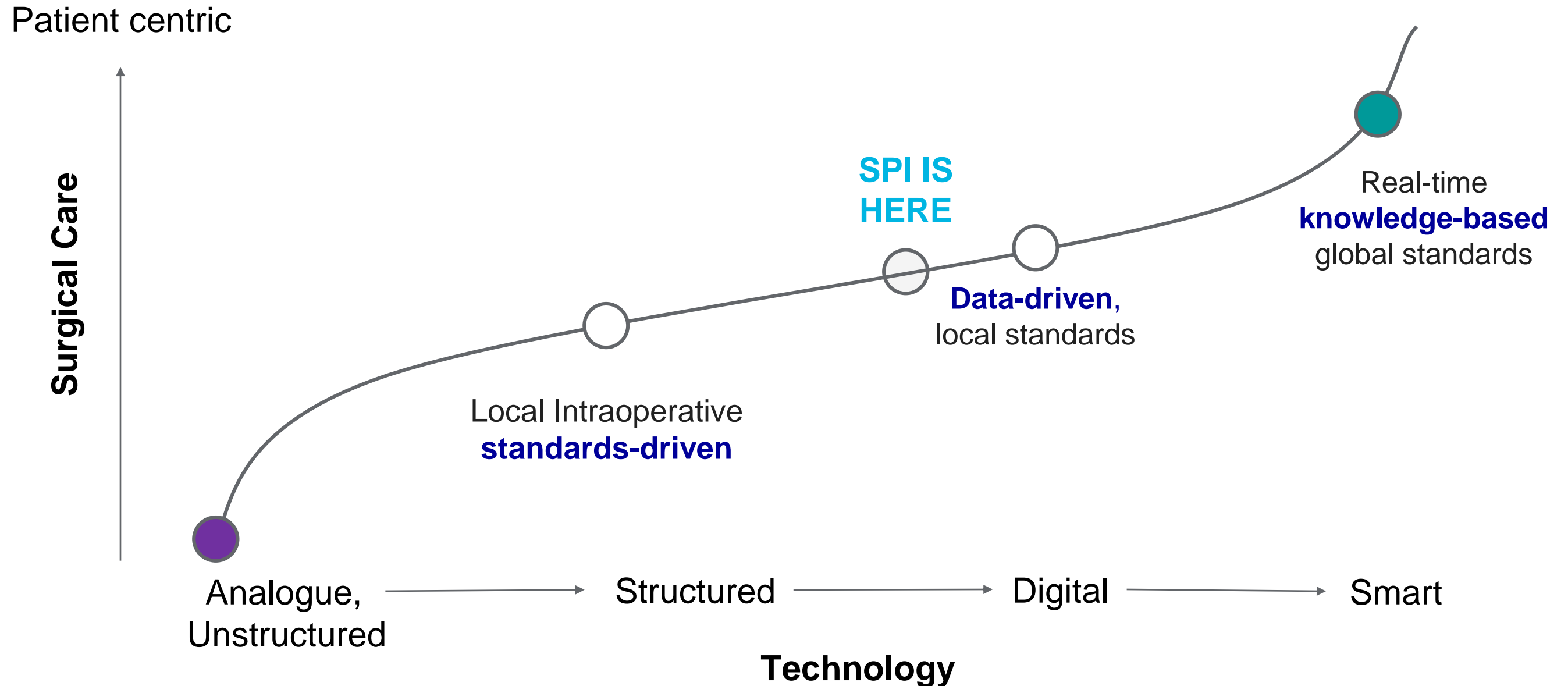
Johnson & Johnson

***“Imagine a world where every patient has access to consistent high quality of care, no matter where, when and by whom the surgery is performed”***

Our vision for healthcare

# SPI is enabling digital transformation

from analogue and unstructured, to smart and patient-centric surgery



# First step towards smarter surgery...



**SPI** is helping health care systems to:

- Collect data on **how procedures** are performed
- Analyze & Identify **which surgical standard** leads to a particular **outcome**
  - Access **best surgical practices locally**
  - Support **introduction of new technology** (e.g. Surgical robots)

...across all medical specialties



General Surgery



Trauma



Electro-physiology



Ortho



ENT / Ophtal.

**Johnson & Johnson** MEDICAL DEVICES COMPANIES

...and all treatment modalities



Open



Lap (MIS)



Robotic





# We help you bring surgical workflows to life

Step list

ATTUNE™ Knee System\_Demo ...

4 Team Time Out

5 Patient preparation

6 Choose a module

Straight

7 Straight Canal Preparation

8 Tibial Trial Assembly

9 Seating Tibial Trial

10 Reamer depth selection

11 Canal preparation

12 Distal Femoral Block Assembly

13 Distal Femoral Resection

14 Sizing the Femur

15 call next patient

16 Change of gloves

17 Implant check

18 Insertion of cement restrictors

19 Cementing of the Tibial and Femoral I...

20 Seating tibial construct



21 Suture

22 Sign out

Current step

13 / 22 00:00:07

Distal Femoral Resection



Revision Femoral Mount, Revision Distal Femoral Outtrigger, Distal Femoral Cutting Block, Angel Wing

Distal Femoral Cutting Block, Oscillating Saw

The Cutting Block is positioned to take 2 mm clean up resection. Use an Angel Wing to confirm the location of the cut. Resect the Cutting Block and Pins.

Function buttons

Progress against plan

START: 15:43



TARGET: 15:52

EST: 15:47

Next two steps

14 / 22 00:00:10

Sizing the Femur




Conventional Cut Guide

Solid Trial

15 / 22 00:01:00

call next patient

call next patient

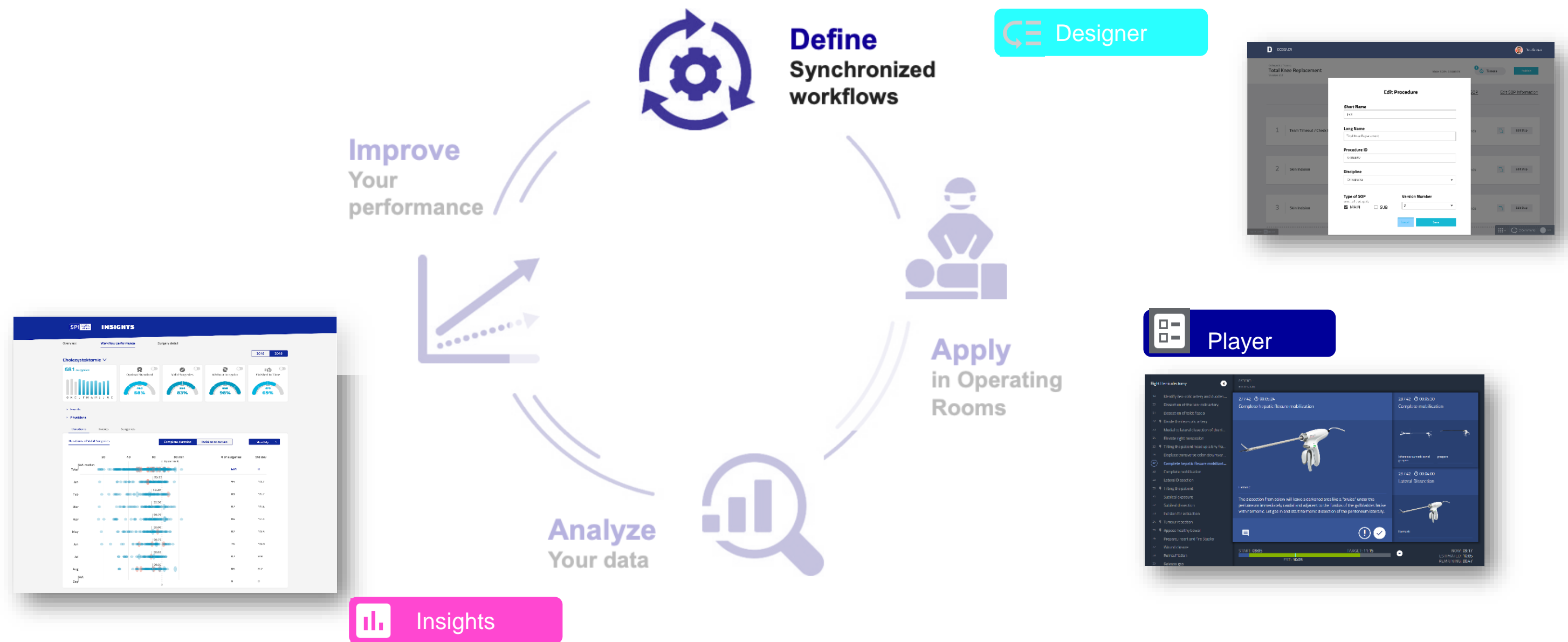


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# SPI enables a continuous cycle of quality improvement by building an ecosystem of connected technology



# Our impact: Case study in a high volume orthopedic center



### A digital solution to reduce variability in surgical workflows for hip and knee arthroplasty at Asklepios Orthopädische Klinik Lindenlohe

#### About the Institution

Asklepios Orthopädische Klinik Lindenlohe is part of a leading private hospital group in Germany. The orthopaedic department led by Prof. Dr. Heiko Graichen is recognized as an international reference center in arthroplasty (joint replacement).

#### Needs Identification

Asklepios Orthopädische Klinik Lindenlohe wanted to increase the capacity of its operating rooms as well as the consistency and reproducibility of surgical workflows for hip and knee arthroplasty.

#### Objectives

OR efficiency, consistent high quality of care, enhancing patient safety, improving team coordination and satisfaction.

>900 surgeries performed with SPM since 2016

19% reduction in incision-to-suture time on average for TKA and 14% for THA\*

1 more surgery per day on average

13% reduction in variability for TKA\*

“The system enabled better team coordination and interactions between the nurses, the surgeons and the first assistants. For complex or less frequent surgeries, like a revision knee, it also helps my team prepare adequately and reduce the stress level in the OR.”

Prof. Dr. Heiko Graichen – Medical Director, Chief Physician Orthopaedics & Trauma Surgery

\* Asklepios Lindenlohe’s data analysis for knee and hip arthroplasty between 2015 and 2018, data on file SPI.

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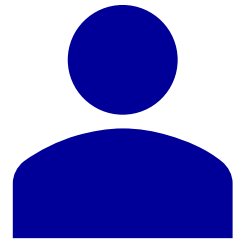
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# Our Reach

## Surgeries

Over **20,000 procedures** performed with the Surgical Procedure Manager (SPM)



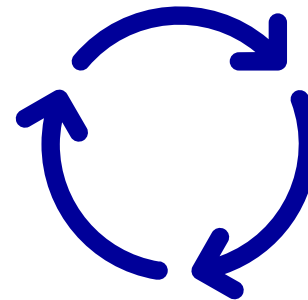
## Installations

Installed in 20+ major hospitals



## Workflows

A library of more than 400 master workflows available for customization



## Surgeons

Used by more than 150 Surgeons



# Enabling surgeons to choreograph their OR, guiding the entire care team seamlessly through every surgery



**Synchronized Workflows**



**Real-Life Learning**



**Effortless Documentation**

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**Consistent high quality of care  
Improved OR Efficiency  
First step towards smarter surgery**

# The **Johnson & Johnson** digital ecosystem

## DIGITAL SOLUTIONS

Patient Pathway Solutions

OR Efficiency Solutions

Rehab Solutions



**care4today®**

**TruMatch®**  
PERSONALIZED SOLUTIONS

**VERB**  
SURGICAL

**ORTHOTAXY**  
Innovative Patient-Specific Solutions

**SPI** SURGICAL  
PROCESS  
INSTITUTE  
PART OF THE Johnson & Johnson FAMILY OF COMPANIES

**Re@solution**  
focus on patients

**care4today®**

**C ▶ SATS**



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