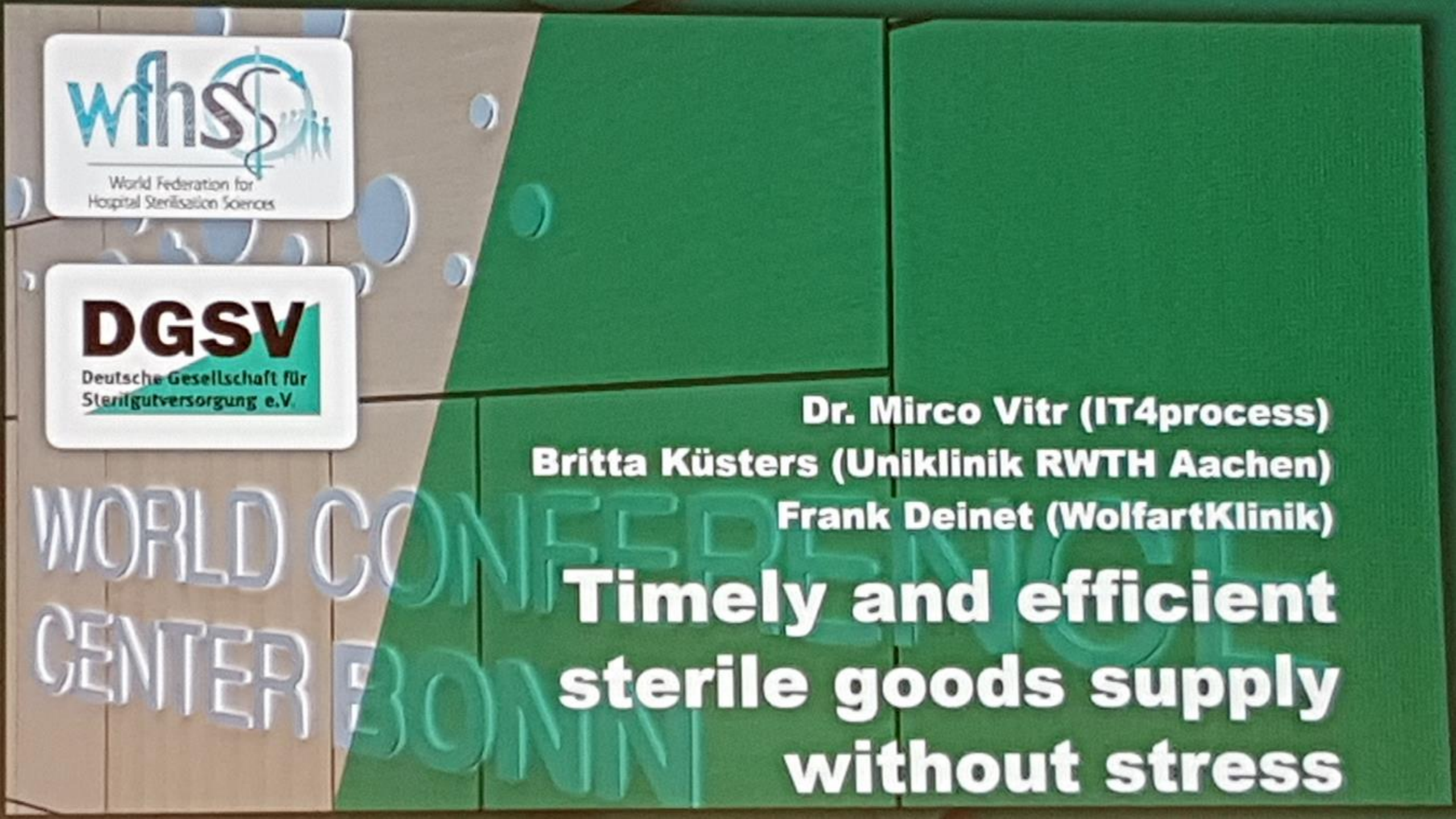


Dr. Mirco Vitr (IT4process)
Britta Küsters (Uniklinik RWTH Aachen)
Frank Deinet (WolfartKlinik)

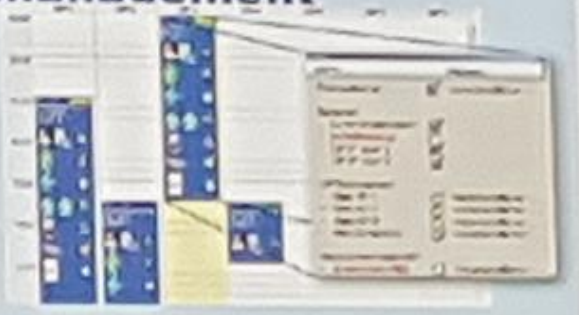
Timely and efficient sterile goods supply without stress

IT4process - Process consulting services and software solutions

Sterile supply planning & management

Bed management

OR planning & management



Training documentation according to MPBetreibV*

* Medical Device Operating Regulations

Quality management photo documentation

Forms / checklist management

RWTH Aachen University Hospital - Maximum-care teaching hospital

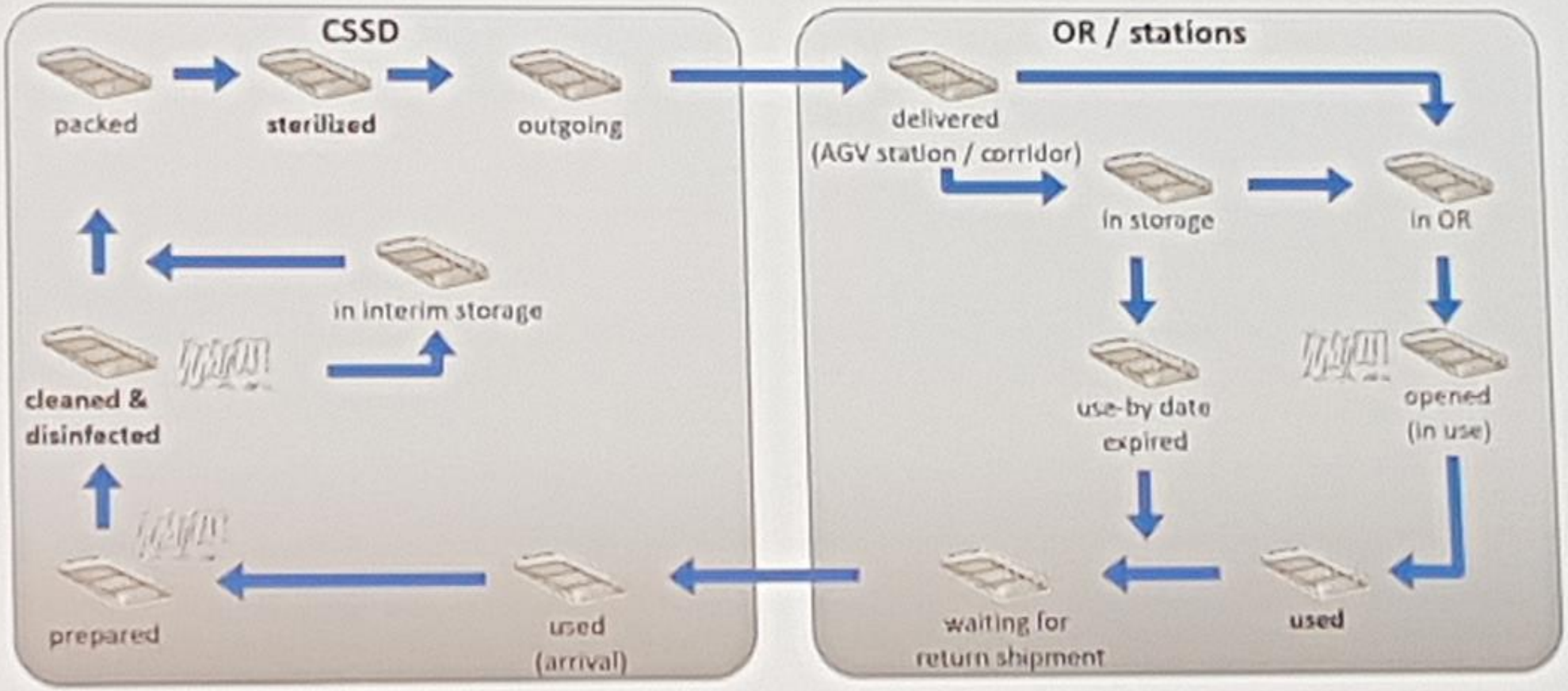
UNIKLINIK RWTH AACHEN

- 34 speciality clinics and 27 institutes
- 7.000 employees
- 1.420 beds
- 48.000 stationary patients and 183.000 outpatients per year

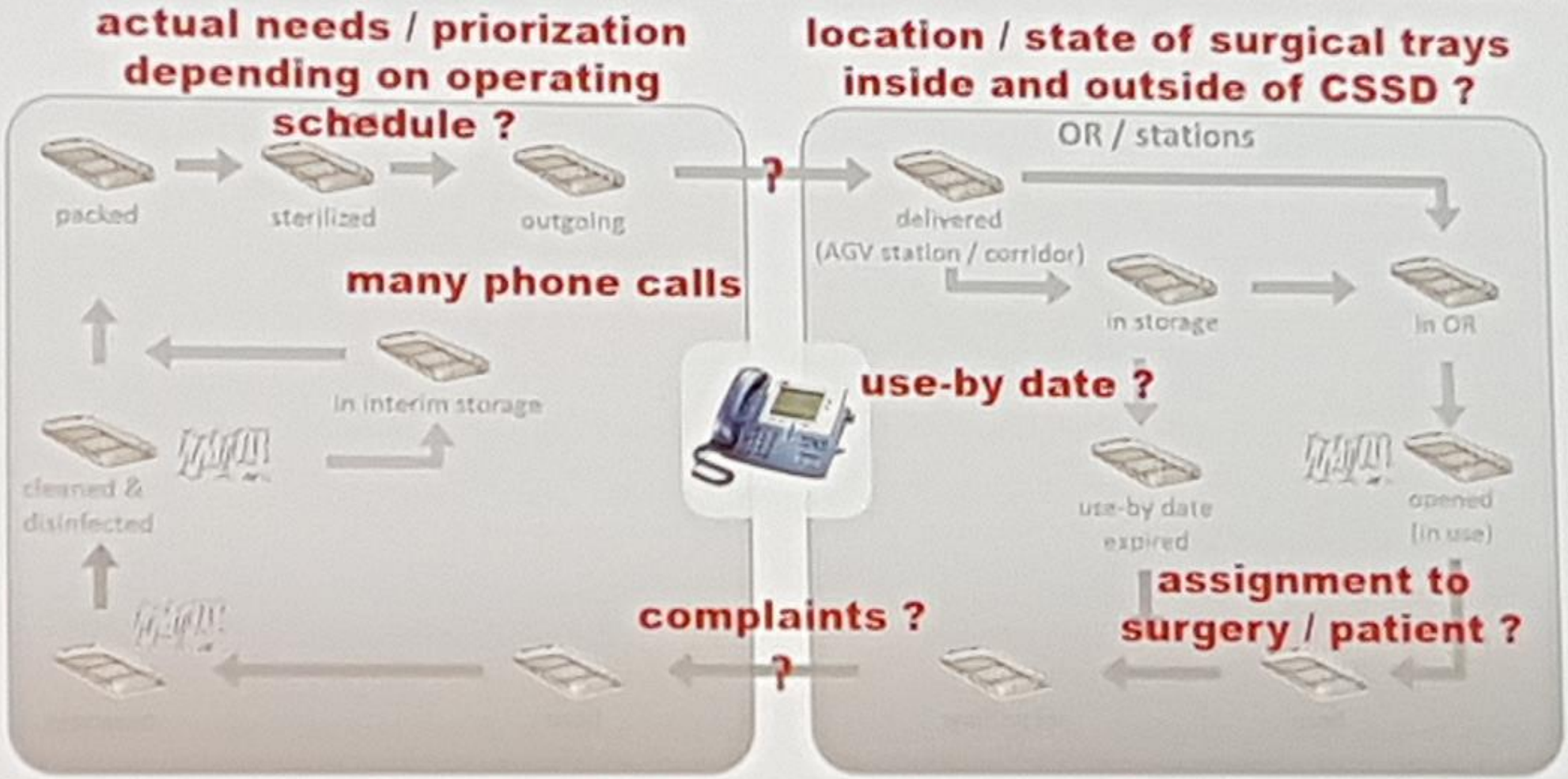
- Central OR: 33 operating theatres

- CSSD: 54 employees
- Up to 700 sets / day

Reprocessing of medical products - „Classic“ flow of sterile goods



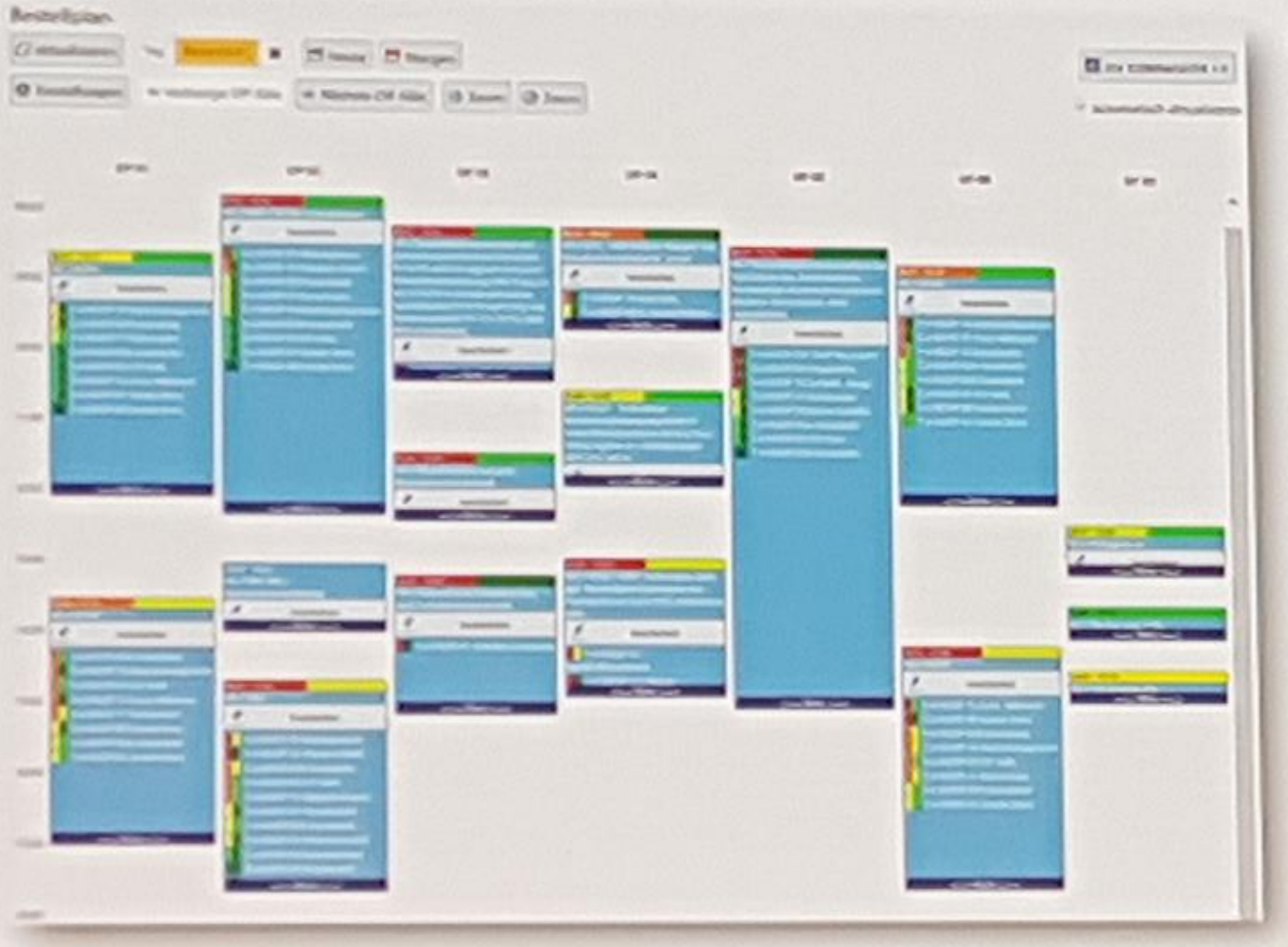
Reprocessing of medical products - Initial situation



number of available surgical trays to large / to small ?

Realtime planning and information system

Management of sterile supply orders (OR nursing staff)



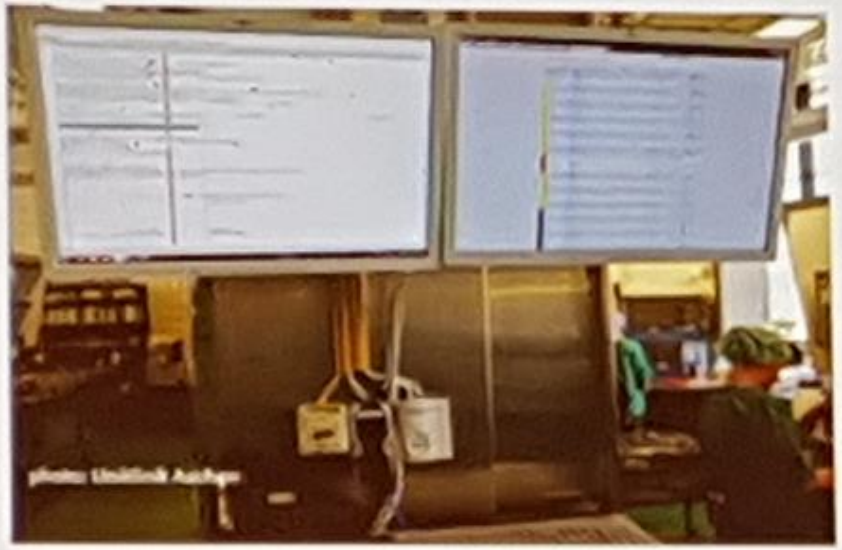
- Display of current surgical schedule from HIS and corresponding sterile supply needs
- Automatic ordering of surgical sets for planned surgeries
- Consideration of sets already available in stock
- Information regarding current reprocessing-/shipping status of sterile goods (from CSSD)

Color-key:

Used; not in CSSD, yet	shipped
in decontamination area	received
in clean area	available
sterile / ready for shipping	completed

Realtime planning and information system

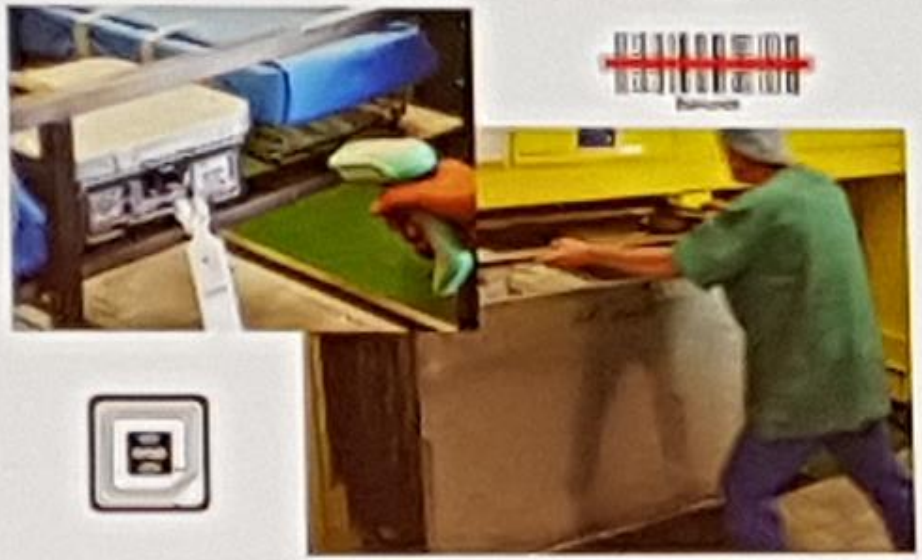
Display of orders of sterile goods on overview panel (CSSD employees)

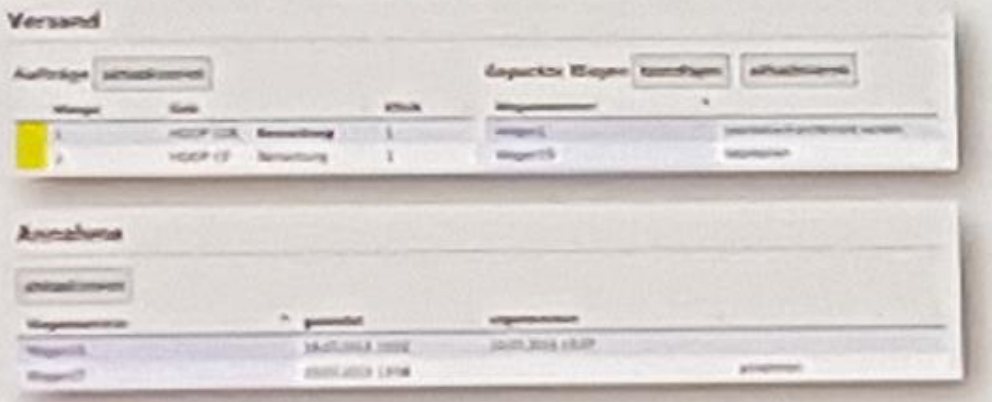


- Overview of all current orders prioritized according to surgery begin time
  (or like defined by shift managers)
- Filtered according to current work area (decontamination area / clean area)
- Differentiation between elective OR-schedule-related-orders and minimum-stock-orders
- Display of the current processing status at any time

Realtime planning and information system

Tracking of sterile goods

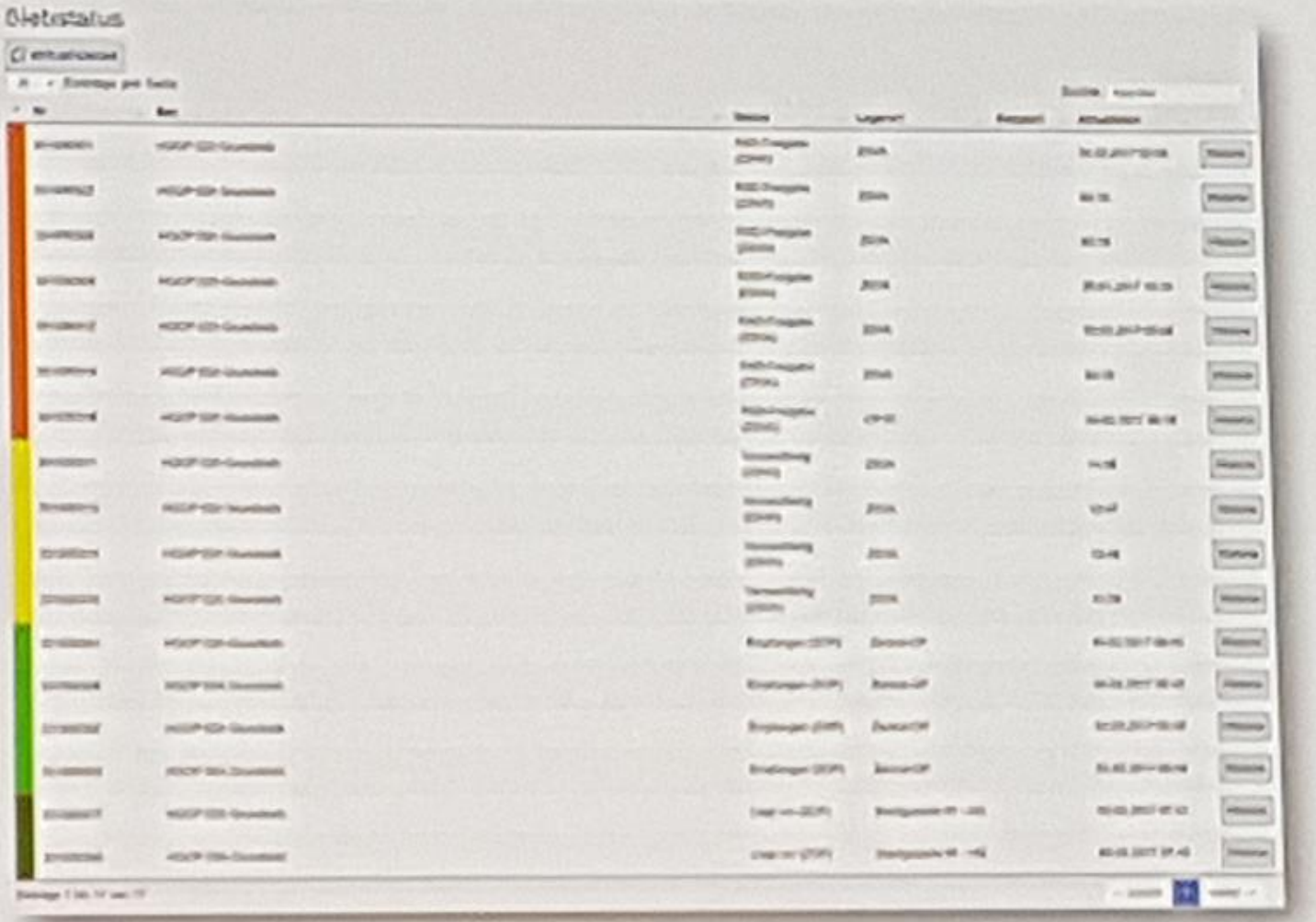




- Seamless tracking of location and state of every surgical tray or item (inside and outside of the CSSD)
- Documentation of shipping, receipt and transportation times
- Detection using barcode or RFID

Realtime planning and information system

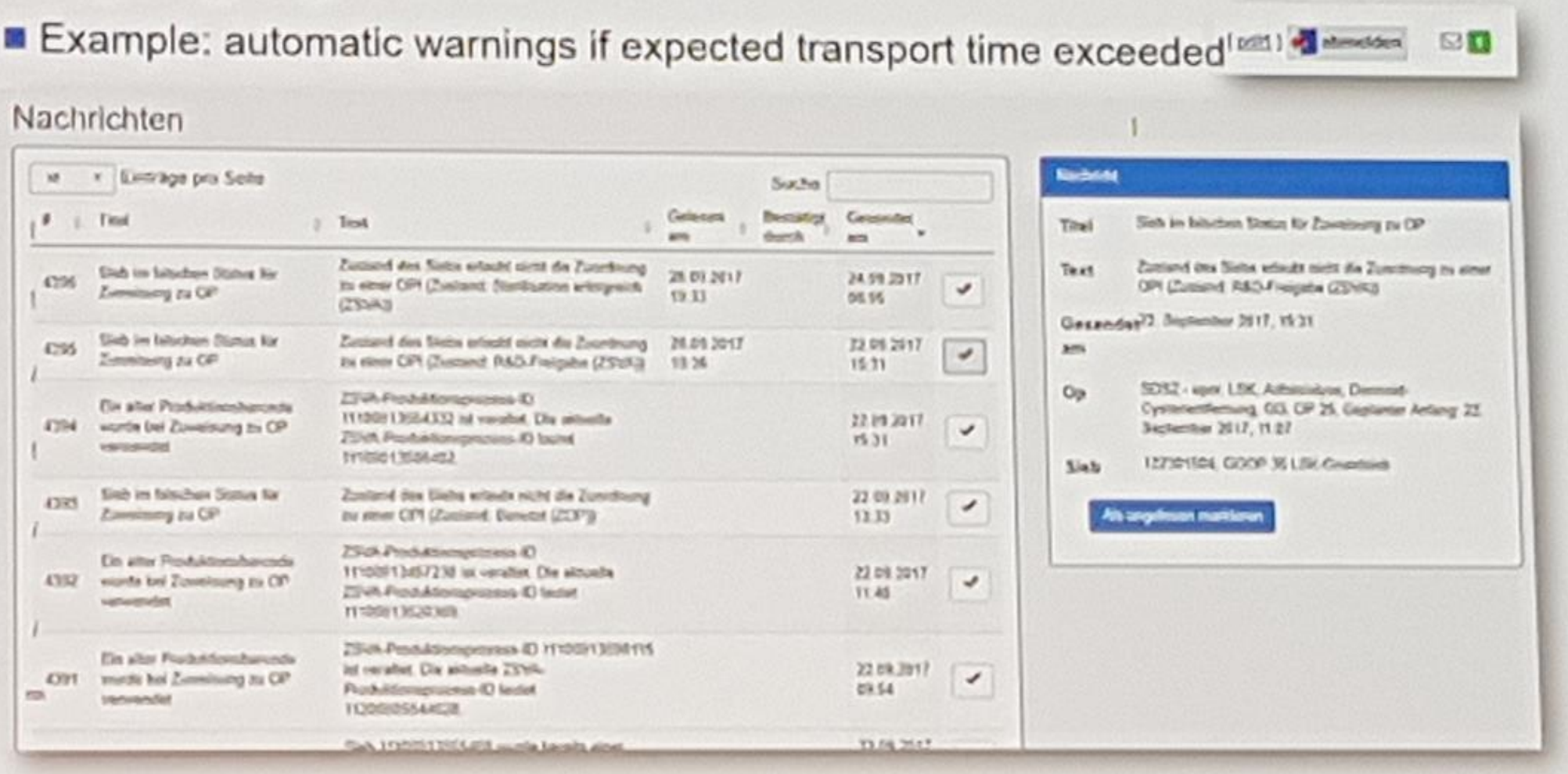
Sterile goods overview (state and location of every set / item)



Realtime planning and information system

Messaging system

- Example: automatic warnings if expected transport time exceeded



Realtime planning and information system

Assistance in the OR (instrument table)

OP-Saal : OP 01

OP

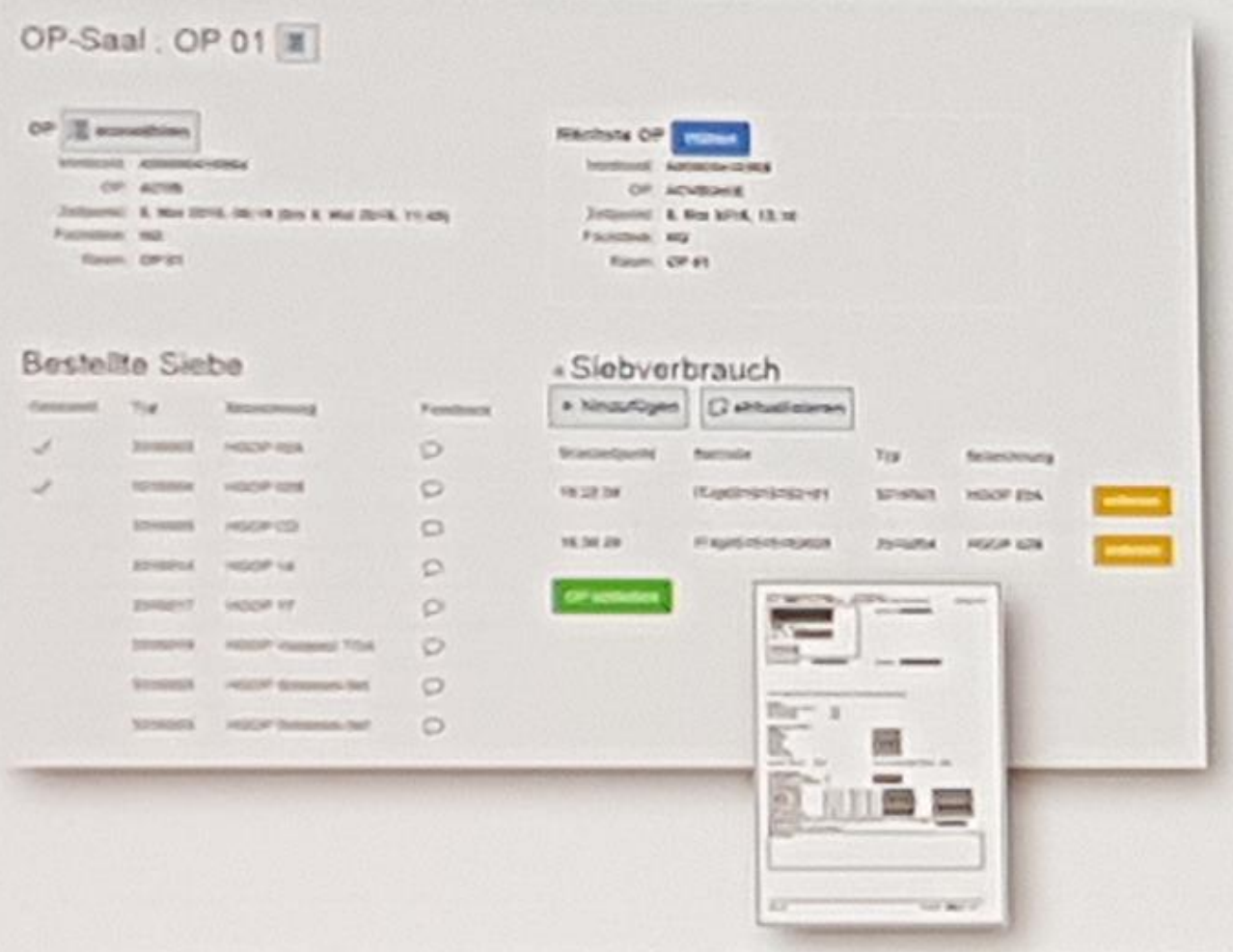
Nächste OP

Bestellte Siebe

Gescannt	Typ	Bezeichnung	Feedback
✓	3315003	HGOP 03A	
✓	3315004	HGOP 03B	
	3315005	HGOP 03	
	3315014	HGOP 14	
	3315017	HGOP 17	
	3315019	HGOP Vorsatz TCA	
	3315055	HGOP Schlüssel Set	
	3315055	HGOP Schlüssel Set	

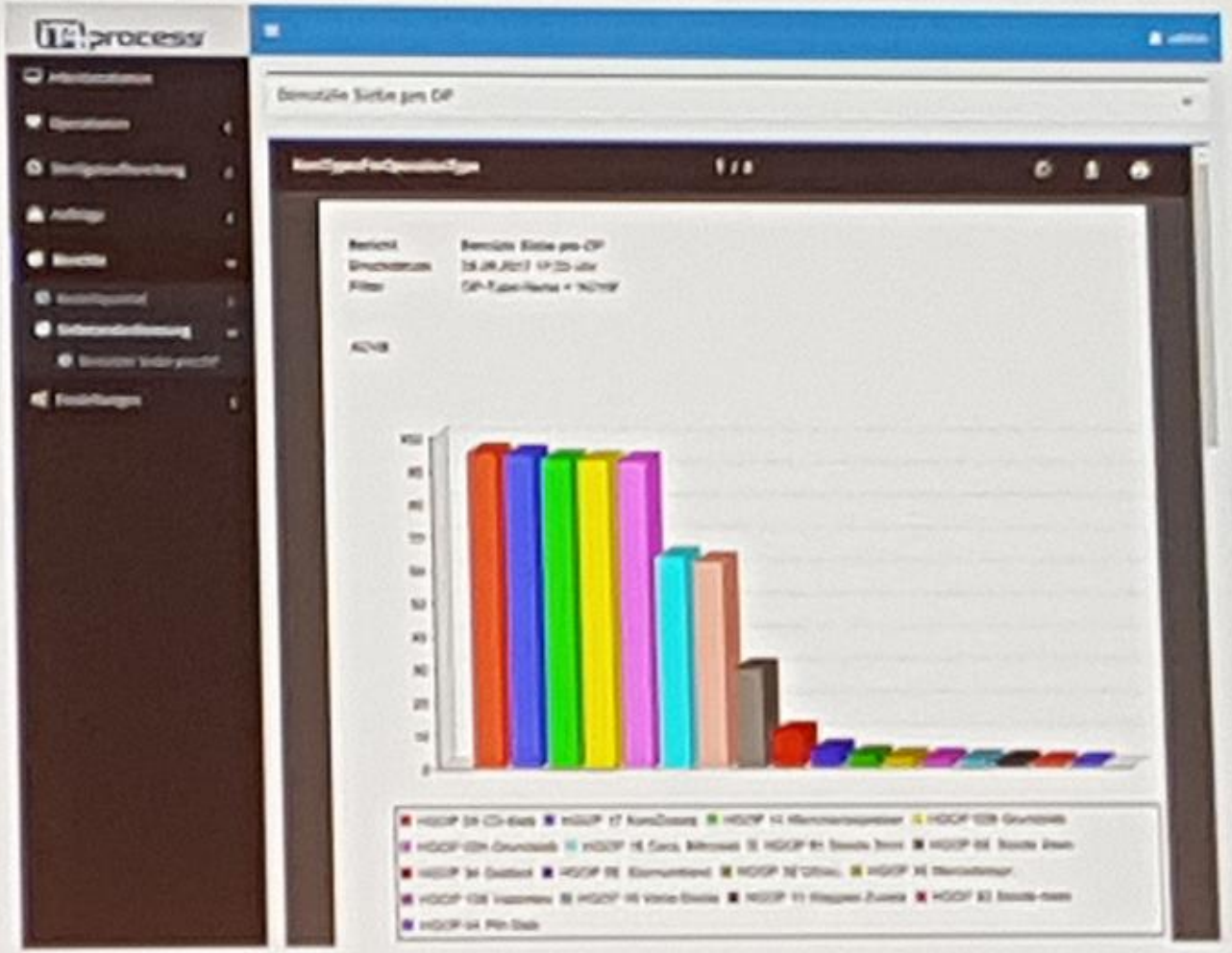
Realtime planning and information system

Usage tracking und batch documentation

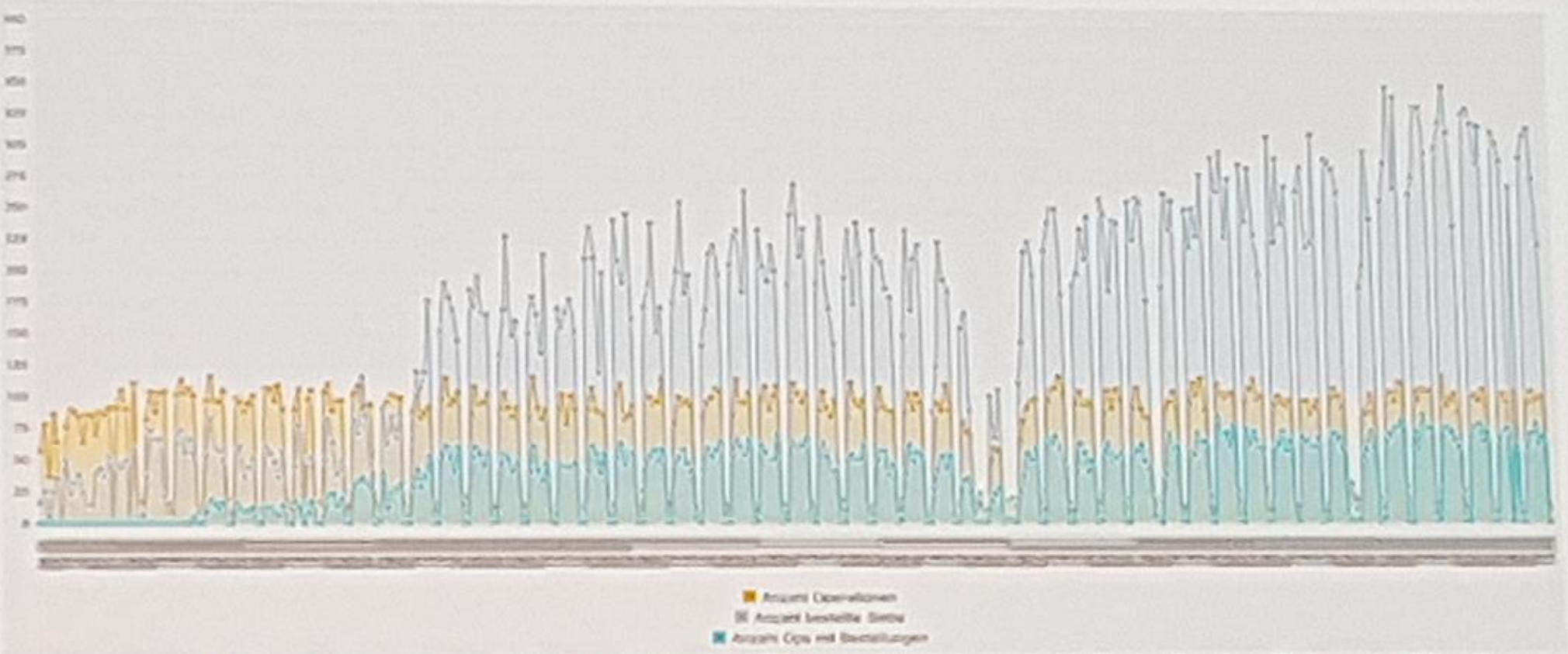


- Patient-/surgery-related usage tracking and batch documentation (cost unit accounting)
  - Surgical trays / instruments
  - Im-/Explants (with photos)
  - Consumables
- Automatic generation of orders after usage
- Digital sterile goods OR documentation (print / export)
- Complaints management (with webcam)

Realtime planning and information system – Report example: Types of surgical trays that were used for a certain type of surgery

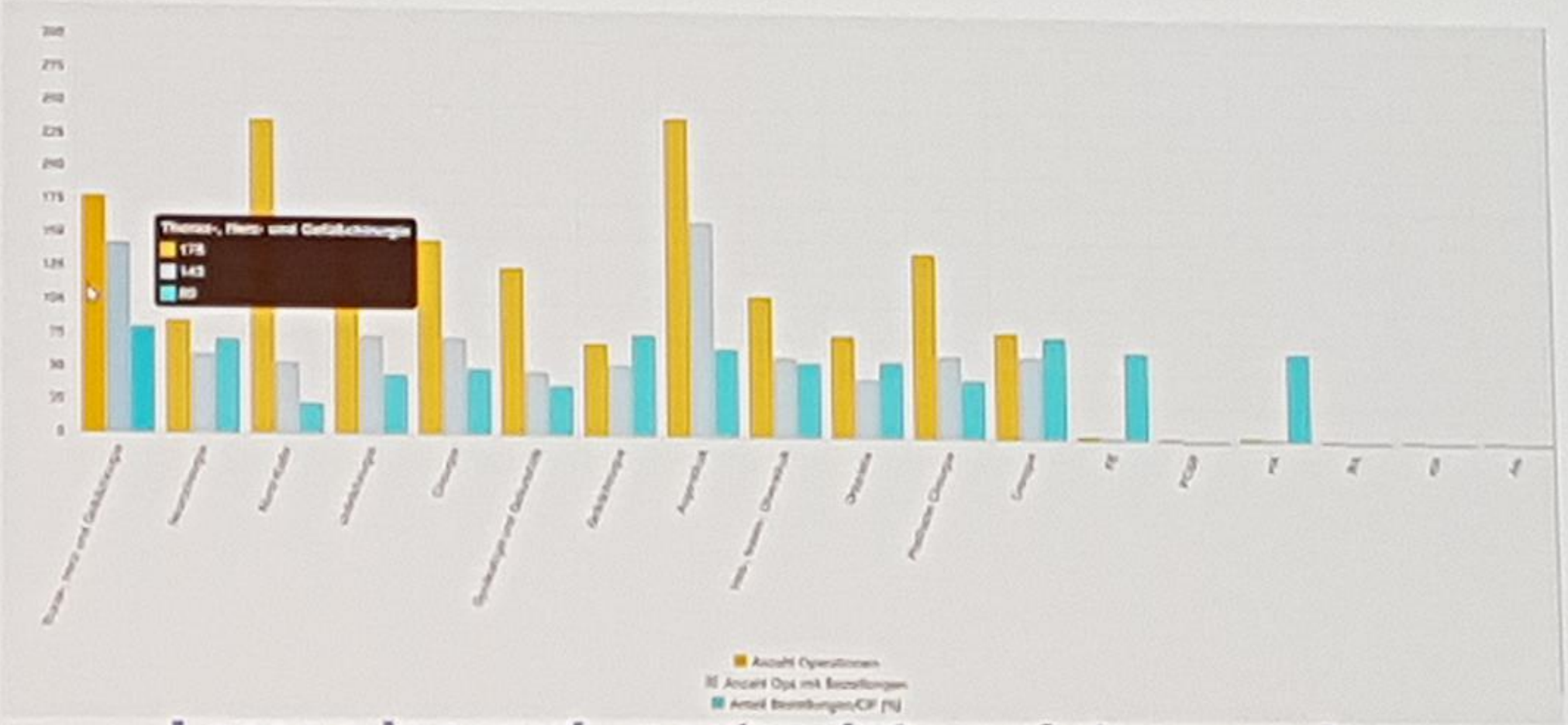


Realtime pl. and in. system - Report example (created for software rollout): Number of surgeries and sterile supply orders



- Step-by-step rollout of the software (one specialist clinic after another)

Realtime pl. and in. system - Report example (created for software rollout): Number of surgeries and orders by specialized clinic

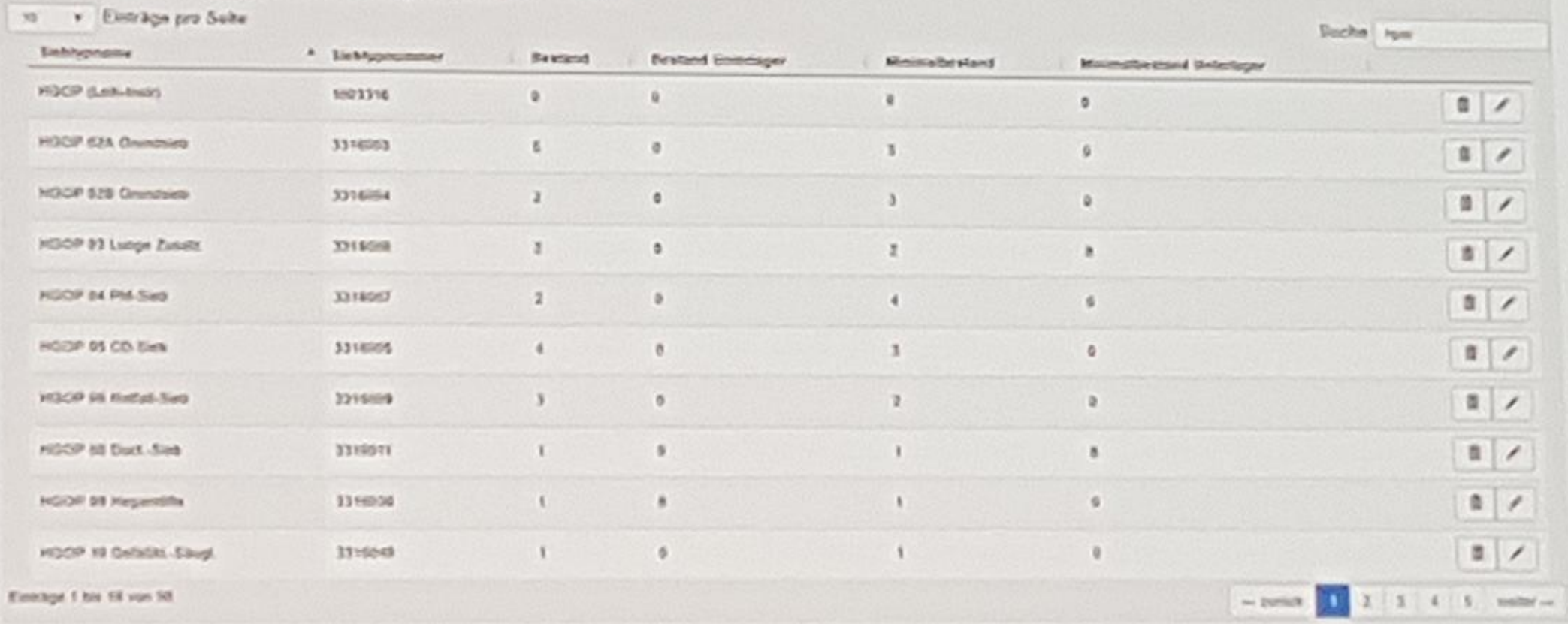


Lesson learned: master data maintenance !

Realtime planning and information system

Warehouse- / stock management

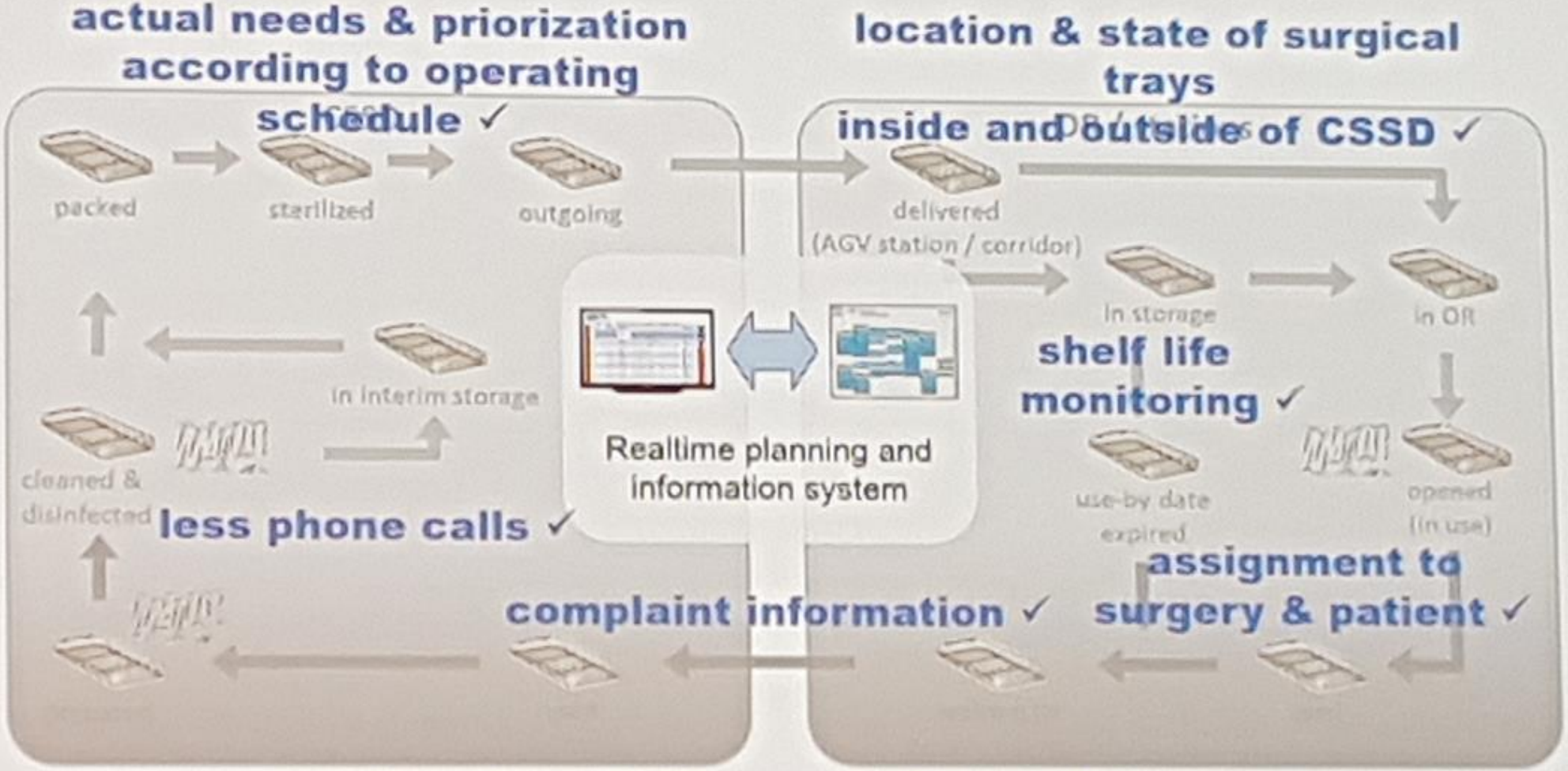
Bestände für Lagerort Sterilgutzeile 01 - HG

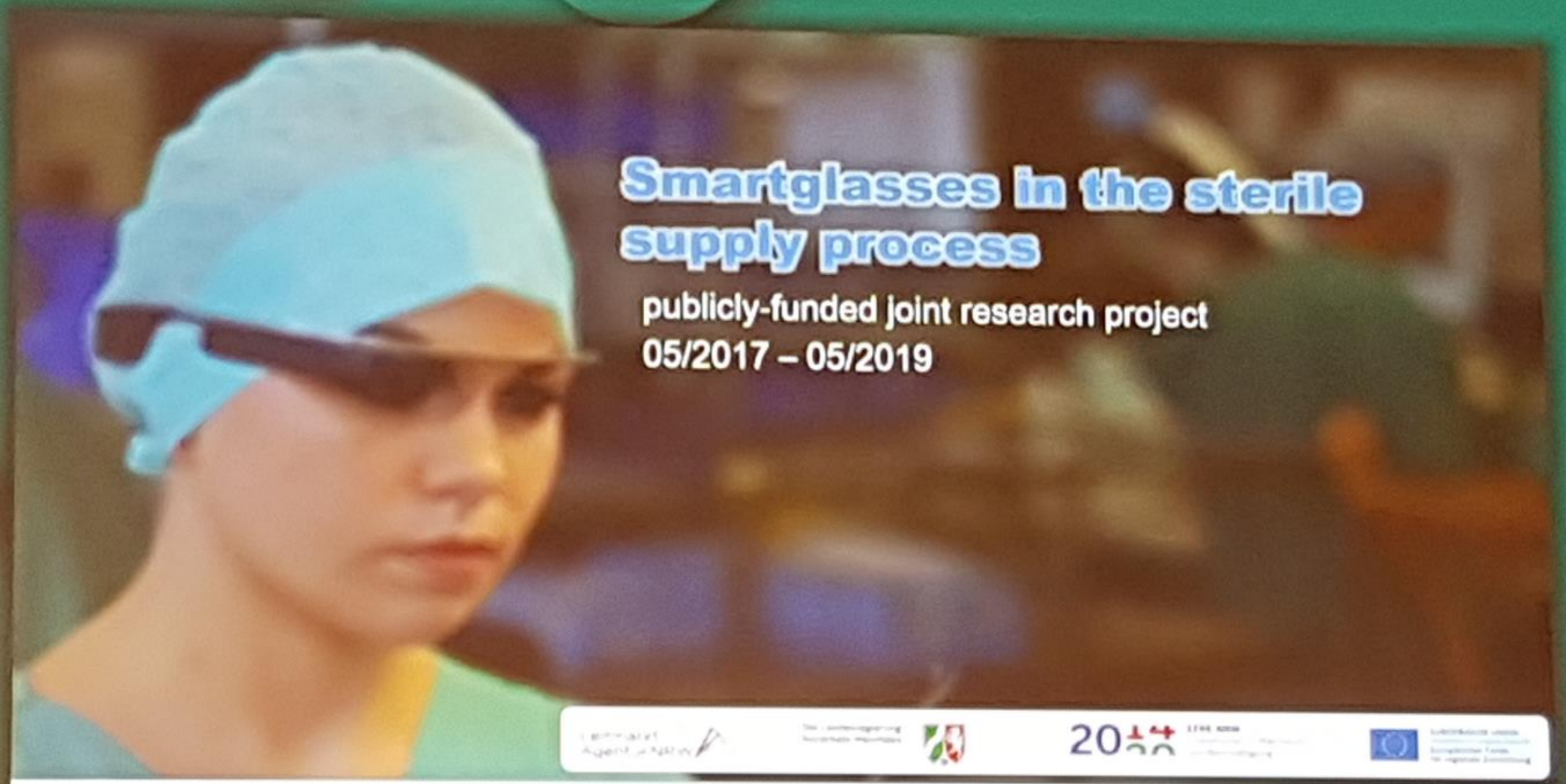


Lesson learned: minimal/emergency stock !

Realtime planning and information system

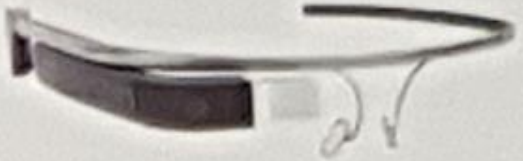
Summary




Smartglasses in the sterile supply process
publicly-funded joint research project
05/2017 – 05/2019

Smartglasses in the sterile supply process

Publicly-funded joint research project



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OSG

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DGSV

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i4process

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KAISER

RESEARCH

Fraunhofer FIT

2014

Smartglasses in the sterile supply process

Project idea: use of smartglasses

Side display

See-through display
(Augmented Reality)

Smartglasses use-case: show dismantling instructions/video

Image: Frank Deinet

Smartglasses use-case: Videotelephony

Image: Frank Desnet

use-case: Packing – storage location of a required item

Image: Frank Deinet

Smartglasses use-case: Warehouse - storage location of a required item

Image: Frank Deimel

Smartglasses use-case: Information regarding sets (incomplete, complaint, urgent, infectious)

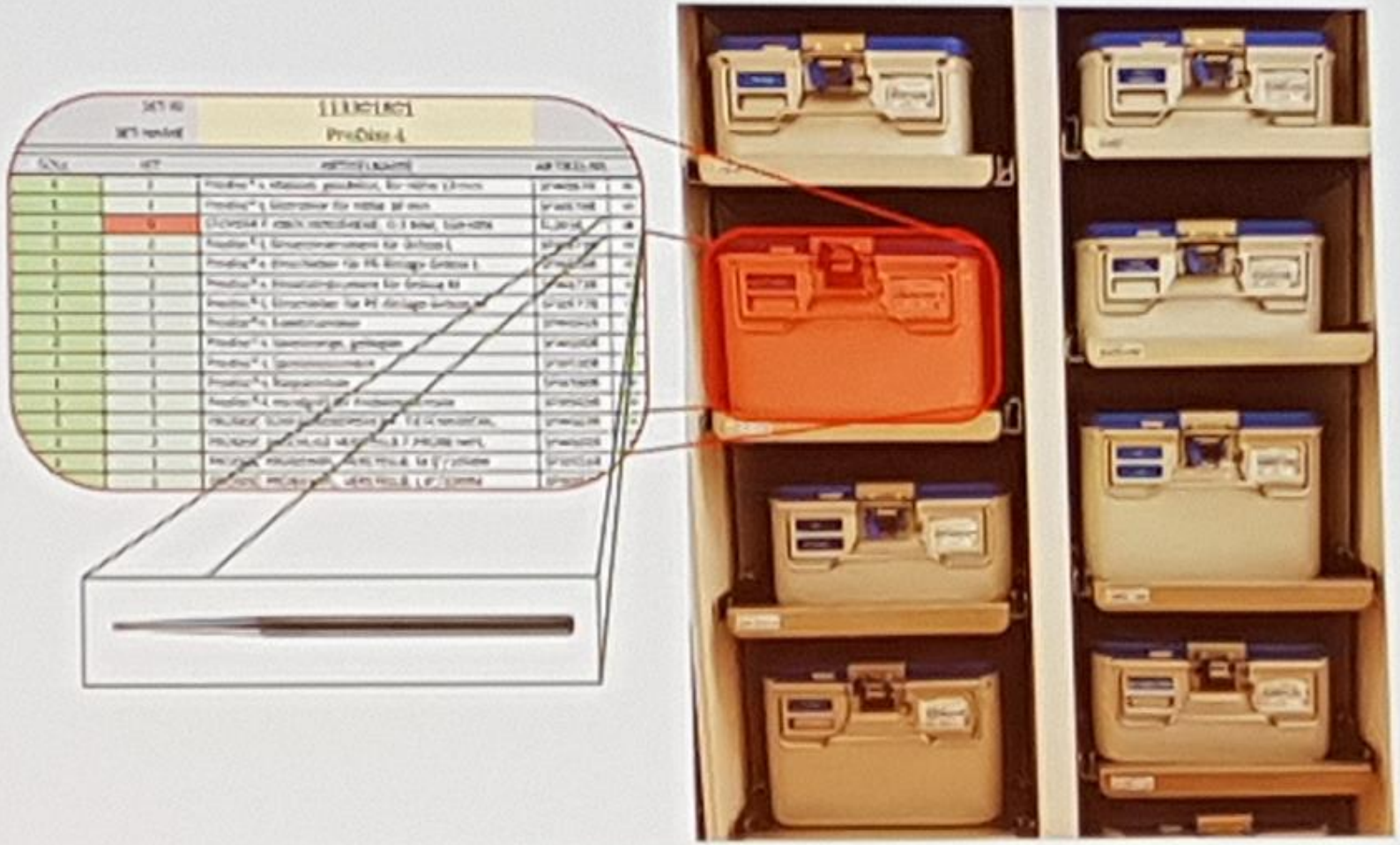

Image: Frank Deimel

Smartglasses use-case: Machine state / error messages

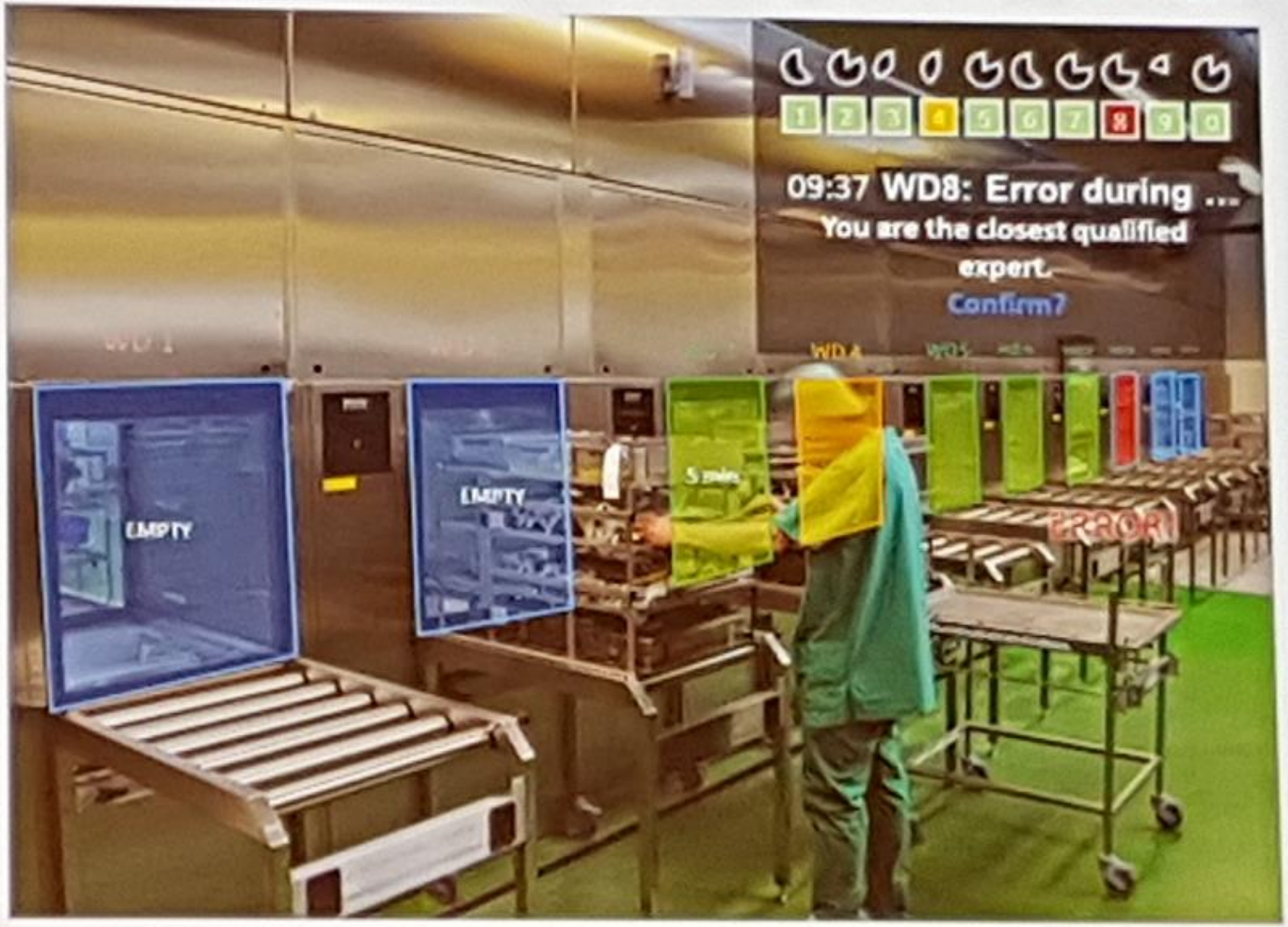

Image: IT4process

Timely and efficient sterile goods supply without stress

Smartglasses in the sterile supply process

Industrial exhibition booth *D 14*

& poster presentation

it4process
Consulting & Software

UNIKLINIK RWTH AACHEN

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