

# Global GS1Healthcare Conference – Noordwijk - Amsterdam

## “Hospitals – Standards Changing The Way To Work”

Kevin Downs, Executive Director of Finance & Performance  
Executive Sponsor – Scan4Safety



 Royal Derby  
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 Queen's  
BURTON



 Samuel Johnson  
LICHFIELD



 Sir Robert Peel  
TAMWORTH



 London Road  
DERBY



## THE 7 FORCES THAT WILL CHANGE THE WAY YOU WORK

“Technological and social forces are transforming how work gets done, who does it, and even what work looks like. And while technology can make workers more productive, there will be significant turbulence as organisations grapple with the complexity and unpredictability of a changing workforce”



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# Seven Key Disruptors

Unprecedented Change and Opportunity



Technology is everywhere



Tsunami of data



Diversity and generational change



Change in nature of a career

AI, Cognitive Computing, Robotics



Jobs vulnerable to automation



Explosion in contingent work



Source: Bersin, Deloitte Consulting LLP, 2018.



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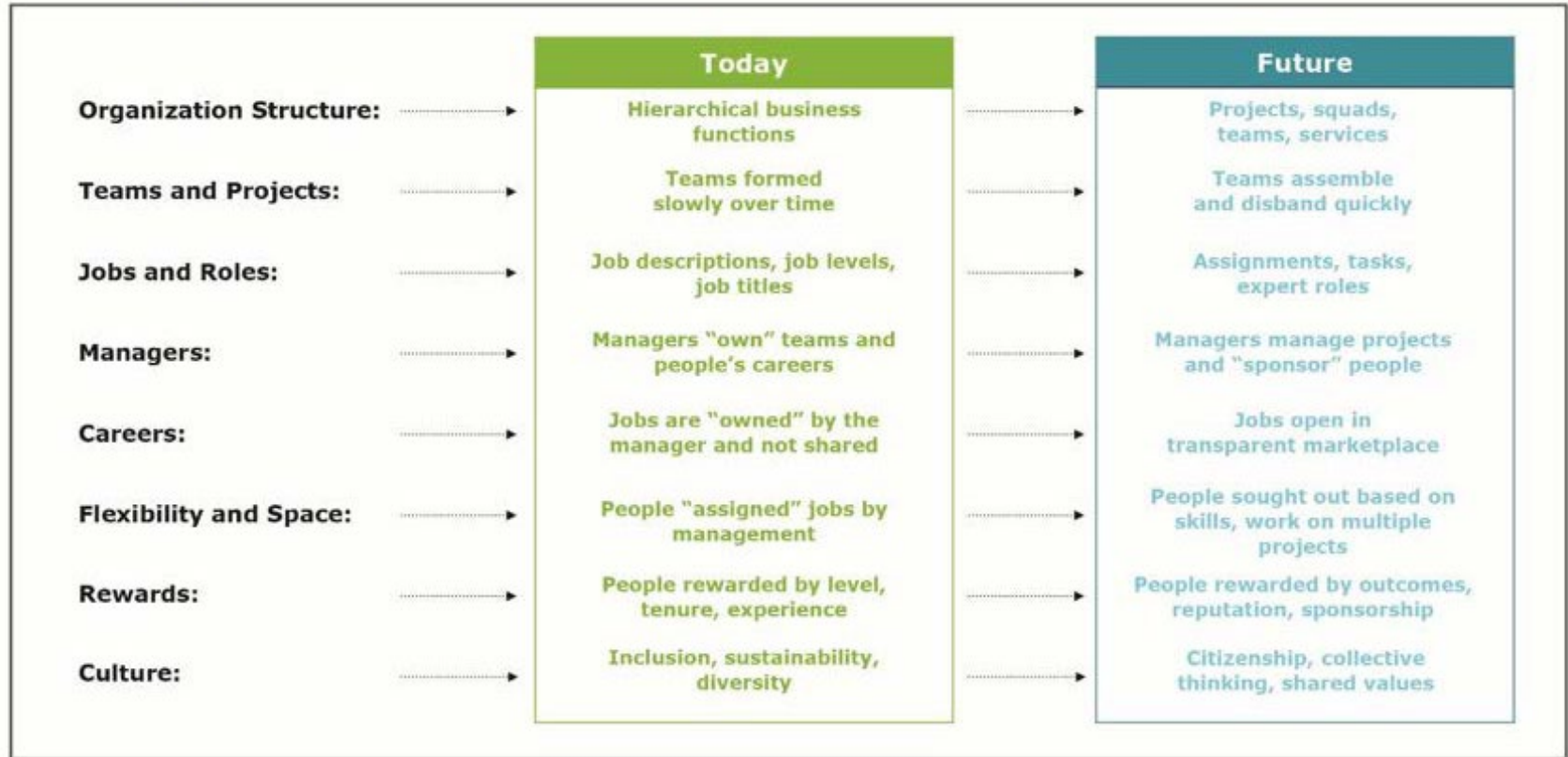


TAMWORTH



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# The New Organisation Model



Source: Bersin, Deloitte Consulting LLP, 2018.

We will now hear presentations from:-

**Thomas Klein,**  
Head of Purchasing and Logistics,  
University Hospital Dusseldorf, Germany

**Keith Jones,**  
Head & Neck Surgeon, Clinical Director of Head & Neck Surgery  
University Hospitals of Derby and Burton NHS Foundation Trust

**Henrik Stilling,**  
IT Architect,  
Aarhus University Hospital, Denmark



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## „35<sup>th</sup> Global GS1 Healthcare Conference “ 26<sup>th</sup> March 2019 Noordwijk-Amsterdam, the Netherlands



Hospitals – Standards changing the way to work

Thomas Klein , Head of Purchasing and Logistics, University Hospital Düsseldorf, Germany

## Agenda

1. University Hospital Düsseldorf
2. Interoperability ERP/Hospital Information System
3. UKD „Digital“ - Strategy material management department
4. Purchasing in the process of change
5. Use cases
  - a. Electronic Catalog /OCI /GHX / Amazon
  - b. Scanning in hospital
  - c. eInvoice
6. Consequence and Decision

## 1. Company presentation of the UKD

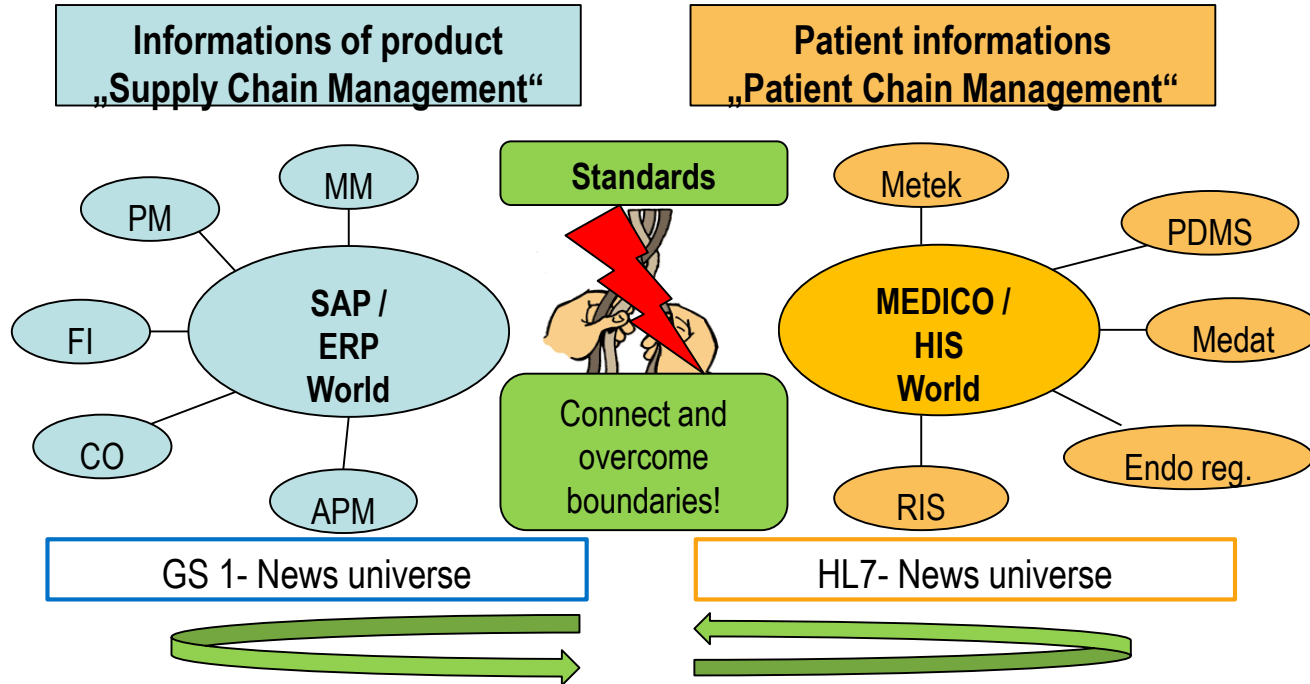
The University Hospital Düsseldorf (UKD) stands for international excellence in health care, research and teaching. Nationally and internationally renowned experts guarantee modern medicine at the highest level. A particular strength lies in the interdisciplinary treatment of patients and the close integration of clinical operation and research.

Number of employees	6.000
Number of beds	1.161
Treatments stationary	50.000
Outpatients	270.000
Clinics	29
Institute	34

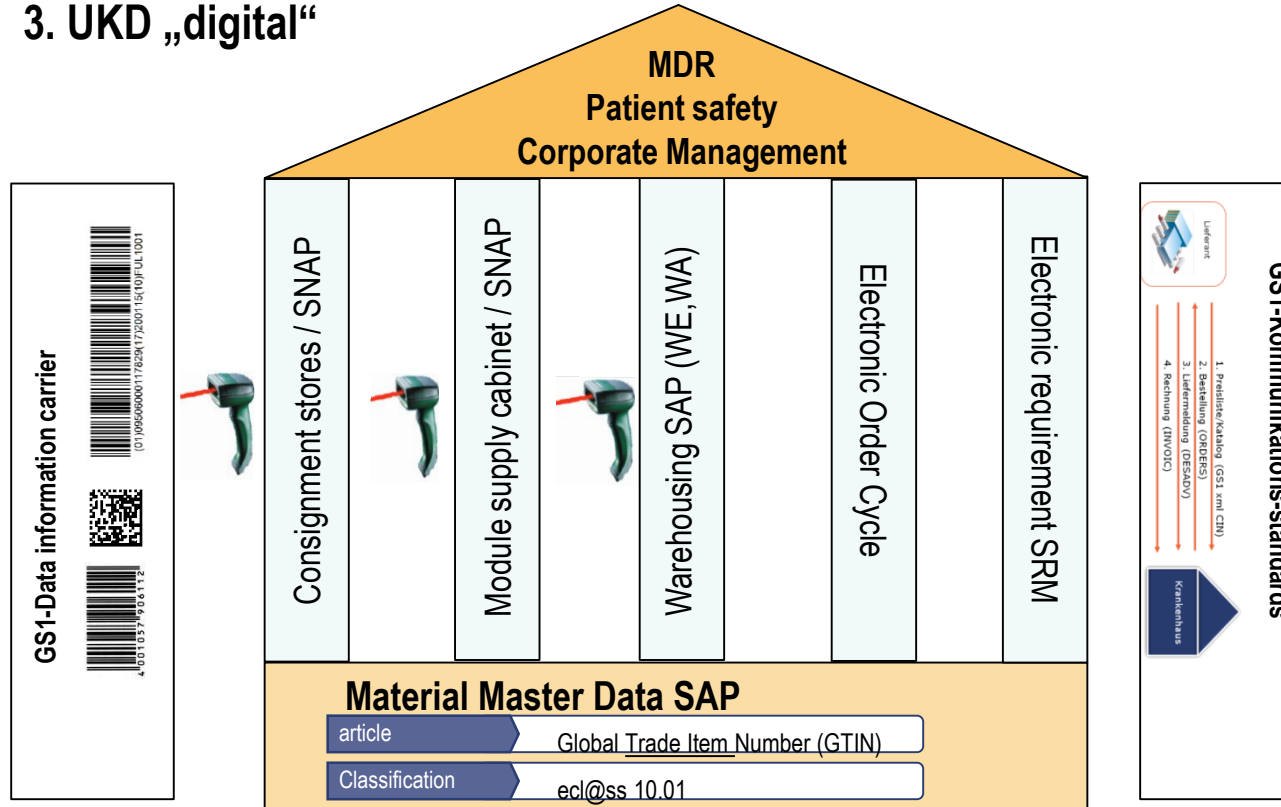




## 2. Interoperability ERP / HIS



### 3. UKD „digital“



## 4. Purchasing in the process of change

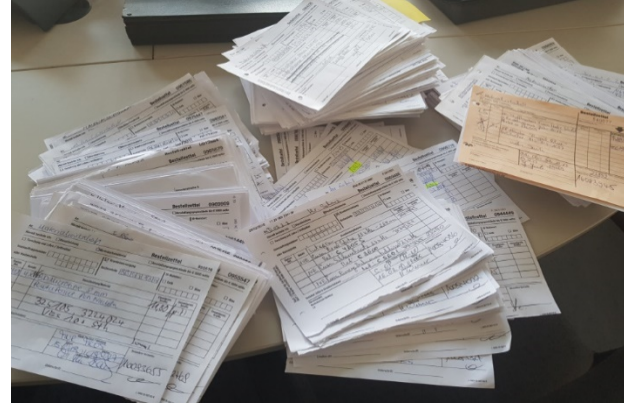
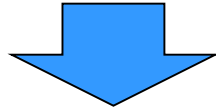
The constantly increasing demands on purchasing in the function of a cross-company and cross-thematic "service provider" has led to a significant change in the Supplier Relationship Management of the UKD

- Professionalization through qualification of the purchasing staff with strategic task portfolio
- The task of pure price negotiations - towards Development of holistic business processes and System partnerships, adapted to the structure of supervising clinics and business units of the UKD



## 5.a Electronic catalogs

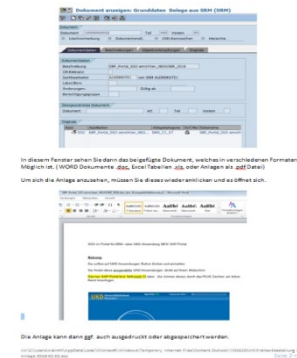
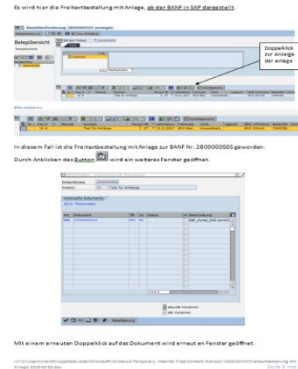
Paper requirement  
called : “Blockzettel“



Electronic  
requirement SRM

### Electronic catalog

- Inhouse catalog MDM
- Supplier catalog B2B
- Multi supplier catalog, Content provider



Open Catalog Interface GHX allSource => order directly

67 Supplier catalogs  
ca. 12.394 Products

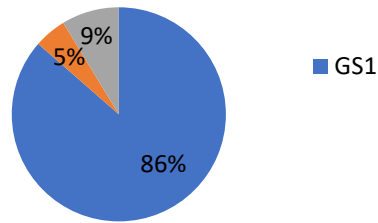


➤ SAP Download of nearly 1 Mio. product information (e.g. GTIN)

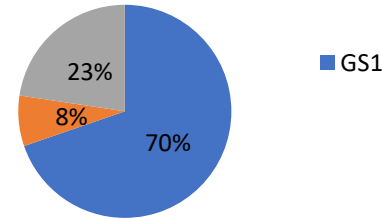
## 5.b Scanning in hospital

### Barcode analysis medical products in the central warehouse

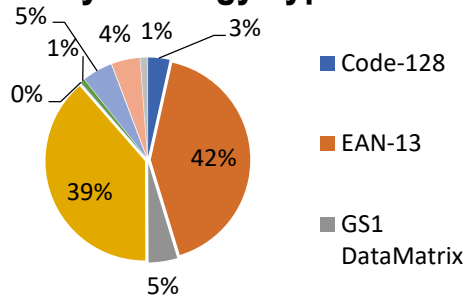
**GS1 Symboligies 2018**



**GS1 Symboligies 2016**



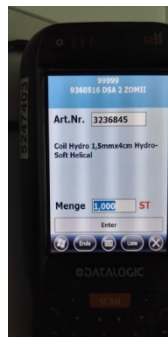
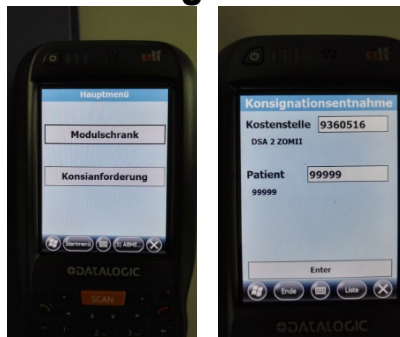
**Symbology Type 2018**



- 86% of the 921 stock material have a GS1 Standard
  - 39 % have a GS1 128
  - 42 % have an EAN 13
  - 5 % have a GS1 DataMatrix

Packaging Level	
Single unit package / Blister	42
Primary	267
Secondary	549
Tertiary – Case or Shipper	63



[illegible]

**Normalbestellung 16094052 angelegt von Jasinski Katrin**

Belagübersicht ein | Drucken | Nachrichten | Pers. Einstellung

Nr. 16 Normalbestellung | Lieferant 10186 Boston Scientific Medizintechnik | Belagdatum 24.02.2018

Pos	K	P	Material	Kurztext	Bestellmenge [ME]	Tiefendatum	Nettopreis	Wahr	pro	SPM/Bedarfsfahr.	Inposatz	Warengruppe
10	X		3234553	Cat Interlock 3mm x 12cm	1ST	27.02.2018	249,00EUR	1	ST	0000019215	4000082733	Vaskulares Verschlussmittel
20	X		3234561	Cat DC-IP 3mm x 4cm	1ST	27.02.2018	181,00EUR	1	ST	0000019215	4000082429	Embolisationskategorie
30	X		3247064	Cat System DC-IP 3mm/cm	1ST	27.02.2018	181,00EUR	1	ST	0000019215	4000103951	Embolisationskategorie
40	X		3234573	Cat Interlock 36-164	2ST	27.02.2018	249,00EUR	1	ST	0000019215	4000083125	Vaskulares Verschlussmittel

Zusatzpositionen

Erst an	Erst von	Benutzer	Typ der Art	Projekt Material	Doc. charge	Material	Material	Preis Einblend	Preis Standard	Preis Net	Manager	Manager	Standort	Plan	Materialkürzel	Kurzbeschreibung	Bezeichnung	Bezeichnung
26.02.2018	12:10:00	BATCH-MQ	1	152626	8	3223031	170717944		9360516	2	ST	MF	99999	00	Hyd Hydro 32mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	8	3223032	170513104		9360516	2	ST	MF	99999	00	Hyd Hydro 32mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	8	3223033	170513104		9360516	2	ST	MF	99999	00	Hyd Hydro 32mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	5	5268485	176602553		9360516	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	4	2421620	170421704		9360516	2	ST	MF	99999	00	MC Mixplex 7mmhd22mm Cosmos Complex	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	4	2421621	170421704		9360516	2	ST	MF	99999	00	MC Mixplex 7mmhd22mm Cosmos Complex	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	3221247	176602553		9360516	2	ST	MF	99999	00	MC Mixplex 10 32mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	3221247	176602553		9360516	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	3221248	176602553		9360516	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	3221249	176602553		9360516	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	3	3221280	176602553		9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	3	3221281	176602553		9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421626			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421627			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421628			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421629			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421630			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421631			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421632			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421633			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421634			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421635			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421636			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421637			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421638			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421639			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421640			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421641			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421642			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421643			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421644			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421645			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421646			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421647			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421648			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421649			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421650			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421651			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421652			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421653			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421654			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421655			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421656			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421657			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421658			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421659			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421660			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421661			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421662			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421663			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421664			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421665			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421666			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421667			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421668			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421669			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421670			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421671			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421672			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421673			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421674			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421675			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421676			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421677			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421678			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421679			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421680			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421681			9360515	2	ST	MF	99999	00	Hyd Hydro 1,5mmhd Hydro-Soft helix	Entnahme	Nachfordern	USA 4 2004
26.02.2018	12:10:00	BATCH-MQ	1	152626	2	2421682			9360515									

## 5.c eInvoice ZUGFeRD 2.0

Pilotproject: Kick off 31.01.2018

Go live 31.03.2019

ZUGFeRD 2.0

Zentral User Guide Forum elektr. Rg Deutschland

International Standard EN 16931

Hybrid pdf/A3 + UN/CEFACT XML



UBL 2.1

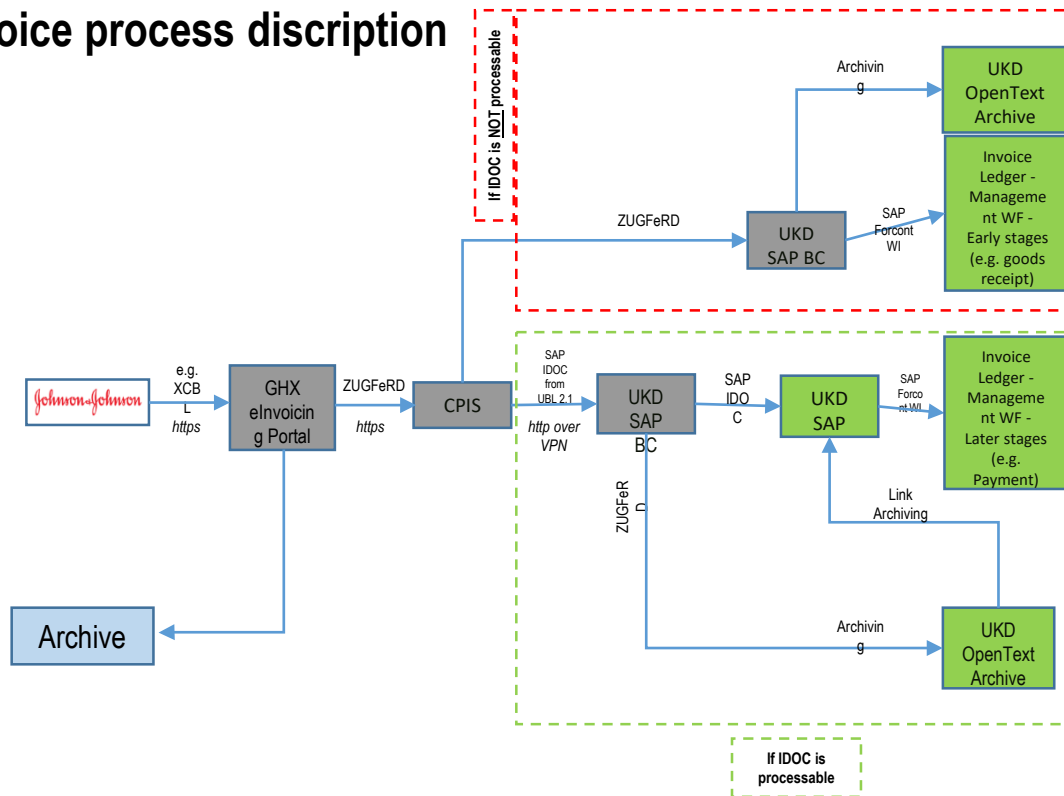


XRechnung

+ electronic Information:  
(Order Acknowledgment/ Auftragsbestätigung)  
Orderresponse  
Advanced Shipping Note

Legal deadline for public institution :  
18.04.2020

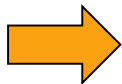
## Invoice process discription



## 6. Consequence and Decision

To use cost advantages ,efficiency gains connected with patient safety in our hospitals we need standards and change our way to work...

- Professionalization through qualification of the purchasing staff
- Communication with staff, colleagues and supplier
- Very good material master data using standards
- Develop process analysis and process understanding within hospital
- Development of holistic business processes and System partnerships
- Trustful cooperation



There is nothing permanent except change - Let's start together!

# Thank you for your attention

## **Thomas Klein**

Dezernent Einkauf & Logistik, Verpflegungsmanagement  
Mitglied im Steering Committee GS1 Healthcare Germany

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The Global Language of Business

# STANDARDS CHANGING THE WAY WE WORK - SMARTER WORKING FOR A SMARTER FUTURE

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Keith Jones  
Head and Neck Surgeon  
University Hospitals of Derby and Burton



# Derby – the way we used to work

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- Limited data
- Disjointed data
- Unable to robustly analyse the performance of surgical teams
- Traceability relied on a paper trail
- Many systems relied on insertion of free text (ORMIS theatre system)
- Compelled to manually trace batch/lot numbers

# Derby – the way we used to work

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- Completion of paper forms for joint registries
- Unable to relate procedure to tariff (payment) received for that procedure
- Difficulty assessing team performance
- No-one (clinicians) believed the limited disjointed data at our disposal
- Expensive products were not tracked
- Re-order/resupply process was labour intensive

# Derby – the way we used to work

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- No patient level costing (PLICS) possible
- Clinical variation difficult to evaluate
- Inability to use the data for individual appraisal
- Apportionment was the norm
- No space (real estate) utilisation data
- Laborious processes involved for SUI investigation
- Data was collected at many points on the patient pathway and commonly involved duplication

# Where did we start from at Derby?



# Catalysts of Change



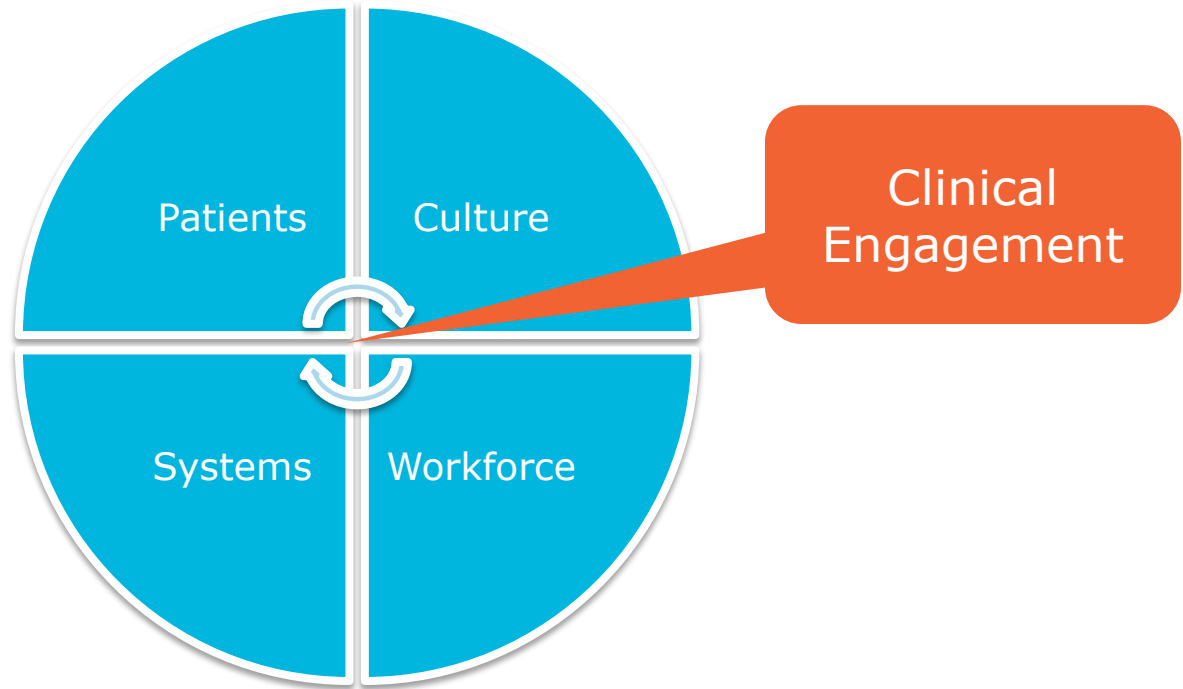
- The need for robust data which was lacking within the organisation
- The need to work in a seamless environment eliminating the silo approach
- Local priorities

Better inventory control  
Trust audit committee report  
Understanding our stock

- National priorities

e procurement strategy  
mandation of GS1 standards in healthcare in the UK

# Challenges





# How did we overcome ?

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- Patient at risk – proper training and ease of use – wall barcodes
- Identification of movers and shakers/opinion formers to become clinical champions
- Not enough resource – additional resource and support provided
- Not enough time and not our job – demonstrated that it saves time down the process
- Freeing up staff to do what they were trained to do – to care for patients
- Provided the best scanner on the market at the time

# How did we manage Clinical Engagement?



## Patient Safety

- Traceability – implants and instruments
- Automatic update of external records – implant registries
- Releasing time to care

## Clinical Variation

- Unwarranted Clinical variation
- Ownership of the data by clinicians
- Understanding the complexity of the work that was being undertaken

## Operational Efficiencies

- Coding – income improvement/reduction of costs
- Providing valuable reports to key stakeholders/costing
- Understanding our HSMR data

# Barcode standards – the route to smarter working



## Patient Benefits

- Improved patient safety
- Improved patient pathway / experience
- Improved patient outcomes
- Auditable evidence

## Trust Benefits

- Meaningful data accepted by clinicians
- Reduction of unwarranted clinical variation
- Greater understanding of the complexity of work undertaken within the organisation
- Driver of operational efficiency
- Improved supply chain efficiency

# Barcode standards – the route to smarter working



## System Benefits

- Direct data feed for registries
- Comparative data on individual and team clinical performance
- Comparative data on procedure codes
- Data sharing within the organisation and the ability to share data and compare data across health economies
- Reduction in duplication of data acquisition

## Financial Benefits

- Accurate patient level costing (PLICS)
- Enhanced depth of coding and increased Trust income
- Ability to relate costs to Tariff
- More robust data to enable informed discussion with healthcare commissioners

# The benefits of big data

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- Patient safety
- Clinical outcomes
- Analysis (reduction) of clinical variation
- Implant tracking
- Performance data
- Consultant specific data
- Operational performance
- Theatre productivity
- Tariff/CCG negotiation/remuneration
- Complications
- Medicines management
- Pathway transformation

# Data Recording at Point Of Care

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- Electronic patient record
- Patient level costing
- Patient safety data/incident reporting/investigation systems
- Enhancement of Trust coding and hence remuneration
- Inventory management
- Electronic re-ordering
- Electronic payment



# Surgical Pathway



## Standards Key



**GSRN**  
Positive patient ID by scanning a wristband or staff ID by scanning staff badge.



**GLN**  
Scanning captures the location of the care delivered



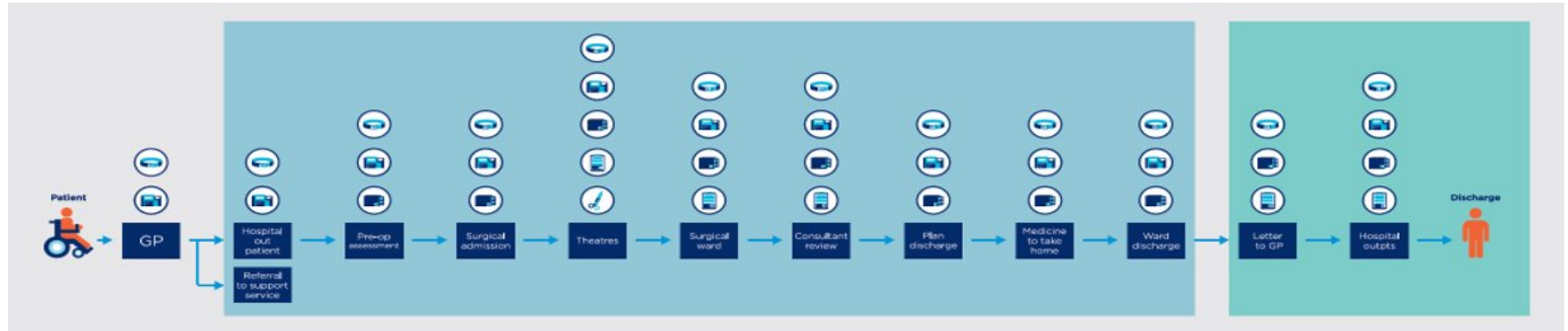
**GTIN**  
Accurate detailed product information captured without errors



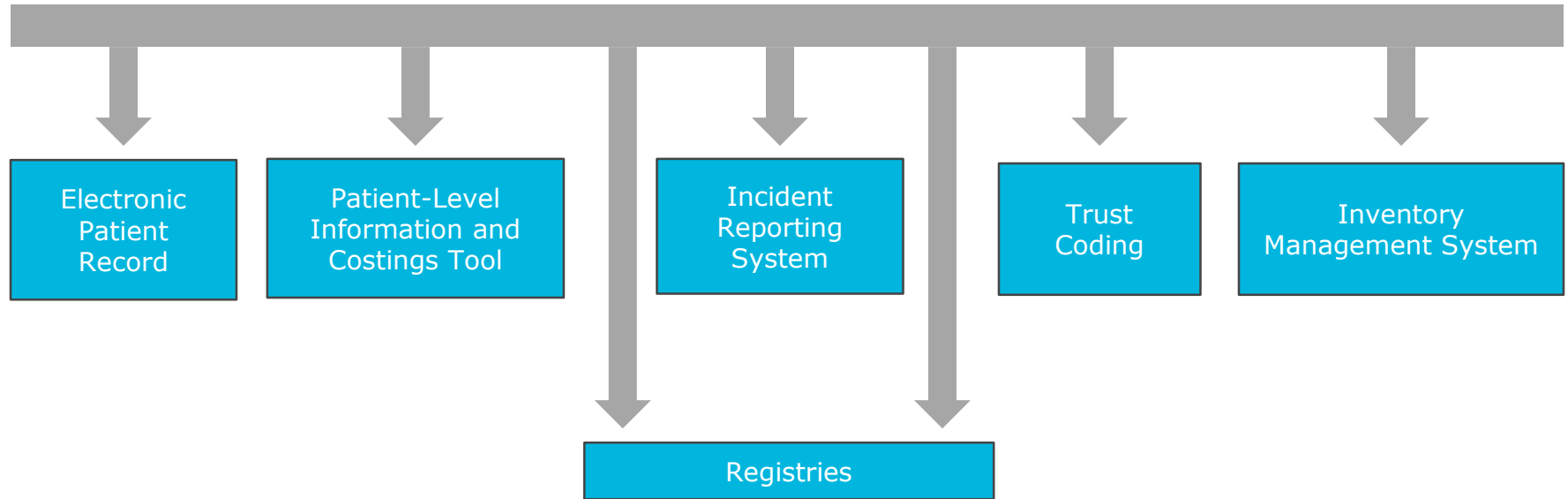
**GIAI**  
Identifies the instrument/tray that has been used on an individual patient



**GDTI**  
Identifies the patient notes or diagnostic test



# Data From Surgical Pathway



# Interoperability is key



# The Future

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- Pharmacy/medicines management
- Pathology services
- Patient outcomes/complications
- Electronic capture of key events (WHO and STOP moment)
- Asset management tracking
- RFID staff and patient tracking
- Central store management
- National benchmarking as part of the National Health Service



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# Standards changing the way to work

Not a technology – a methodology

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Henrik Stilling, IT-Architect, Aarhus University Hospital, Central Denmark Region  
GS1 Healthcare Conference, Netherlands, March 2019





## Who am I?

- Central Denmark Region
- Lead architect for item identification and tracking
- Engineer by trade
  - Process management
  - Technology adaption
- Worked within health care industry since 2008
- Part of Danish national initiative on identification and traceability in healthcare

# Merging for modern care

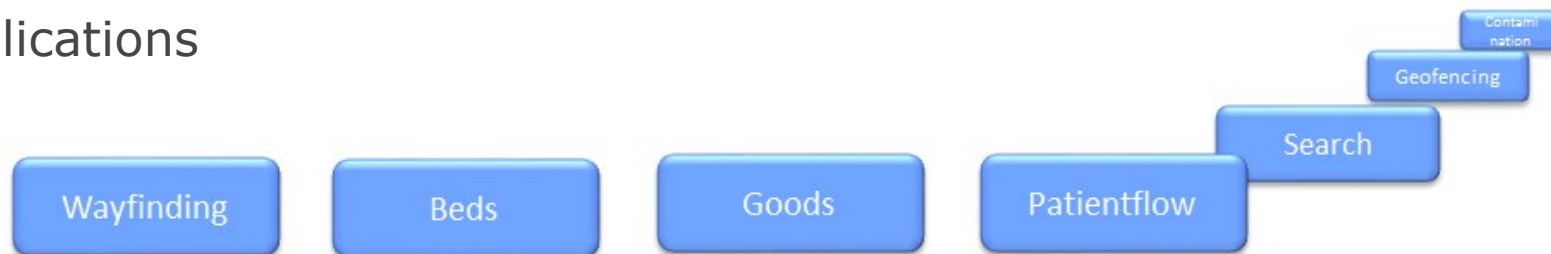


# Core elements

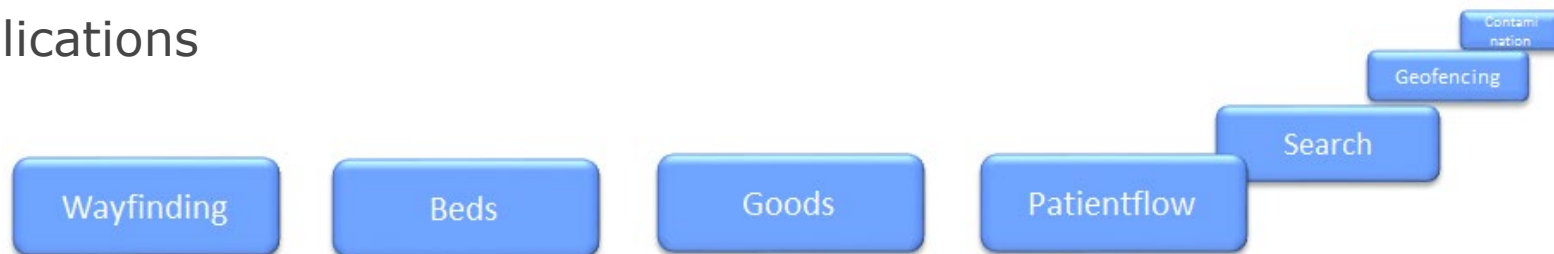




## Applications



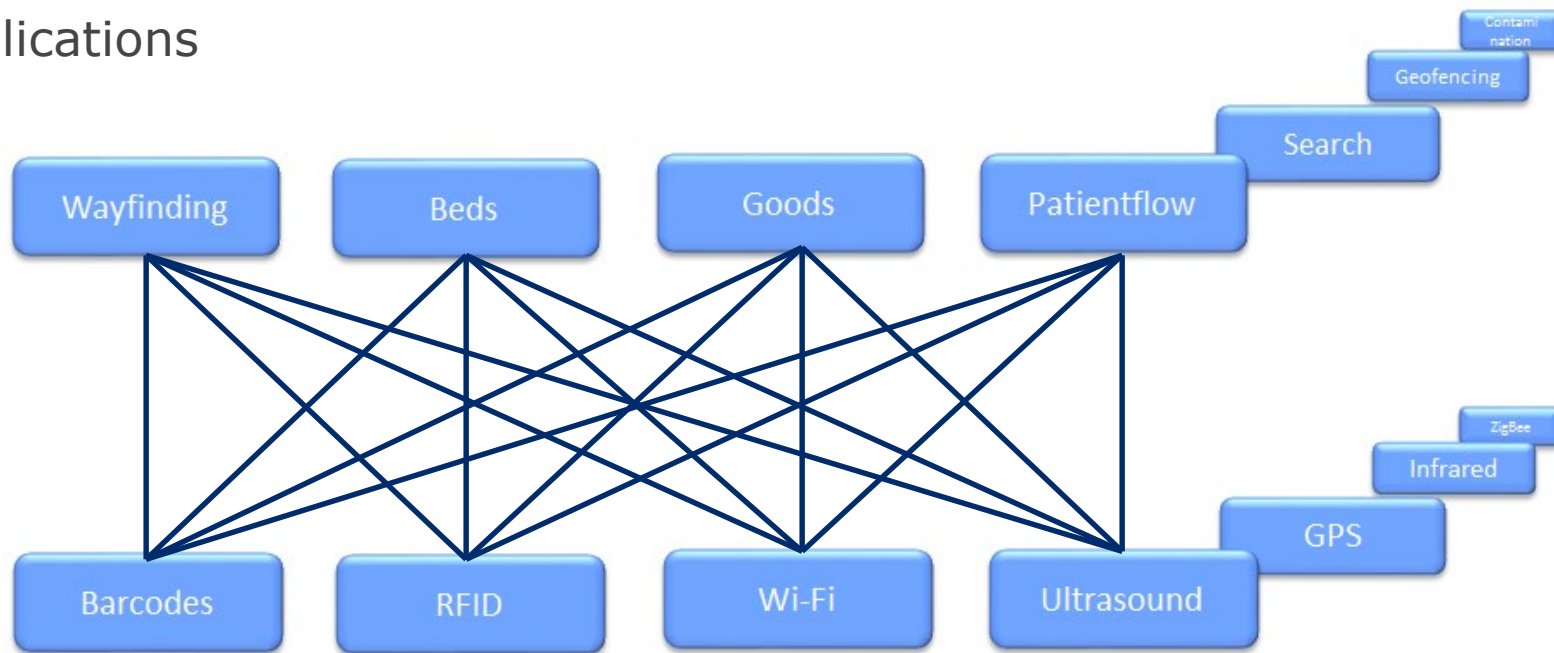
## Applications



## Technologies

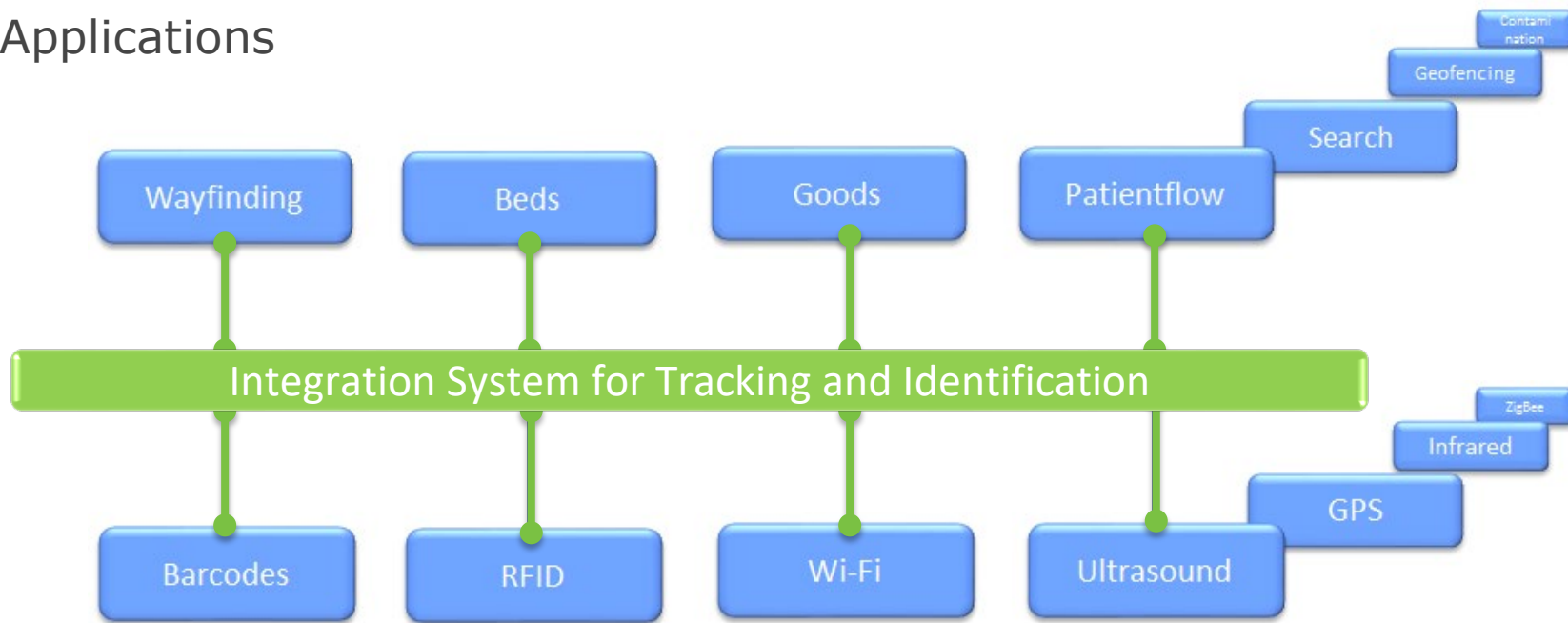


## Applications



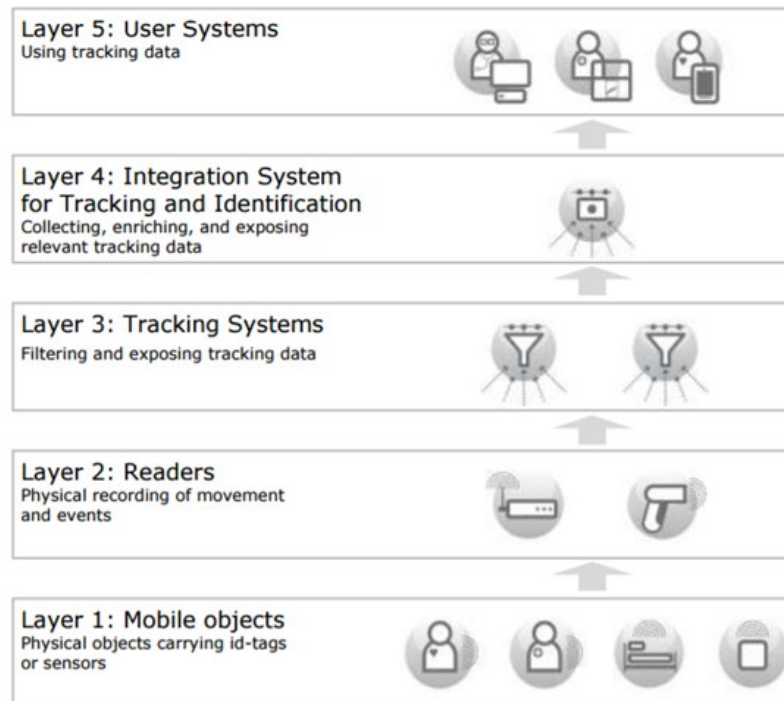
## Technologies

## Applications

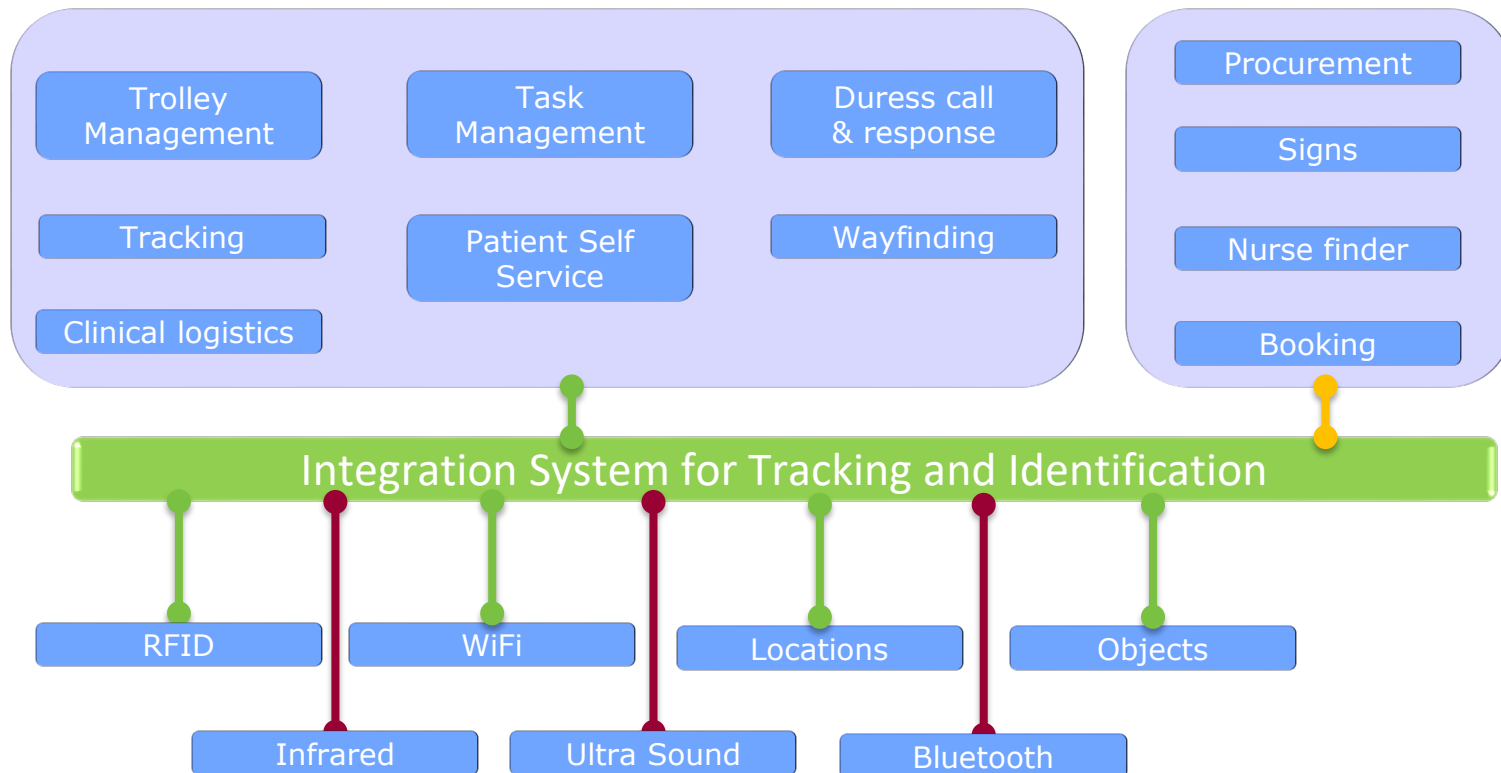


## Technologies

# Architecture



# Use



# Built on standards

## Item identification

- GTIN - Global Trade Item Number
- GRAI - Global Returnable Asset Identifier
- GIAI - Global Individual Asset Identifier
- GSIN - Global Shipment Identification Number
- UDI approved enumeration models approved by EU

## Traceability (Location)

- GLN - Global Location Number

## Time

- UTC

## Interoperability

- EPCIS (Electronic Product Code Information Services)
  - Capture
  - Query
  - EPC
- CBV (Core Business Vocabulary)

*<http://www.gs1.org/id-keys>*

*Get into the details later at the 'Poster reception'*

From

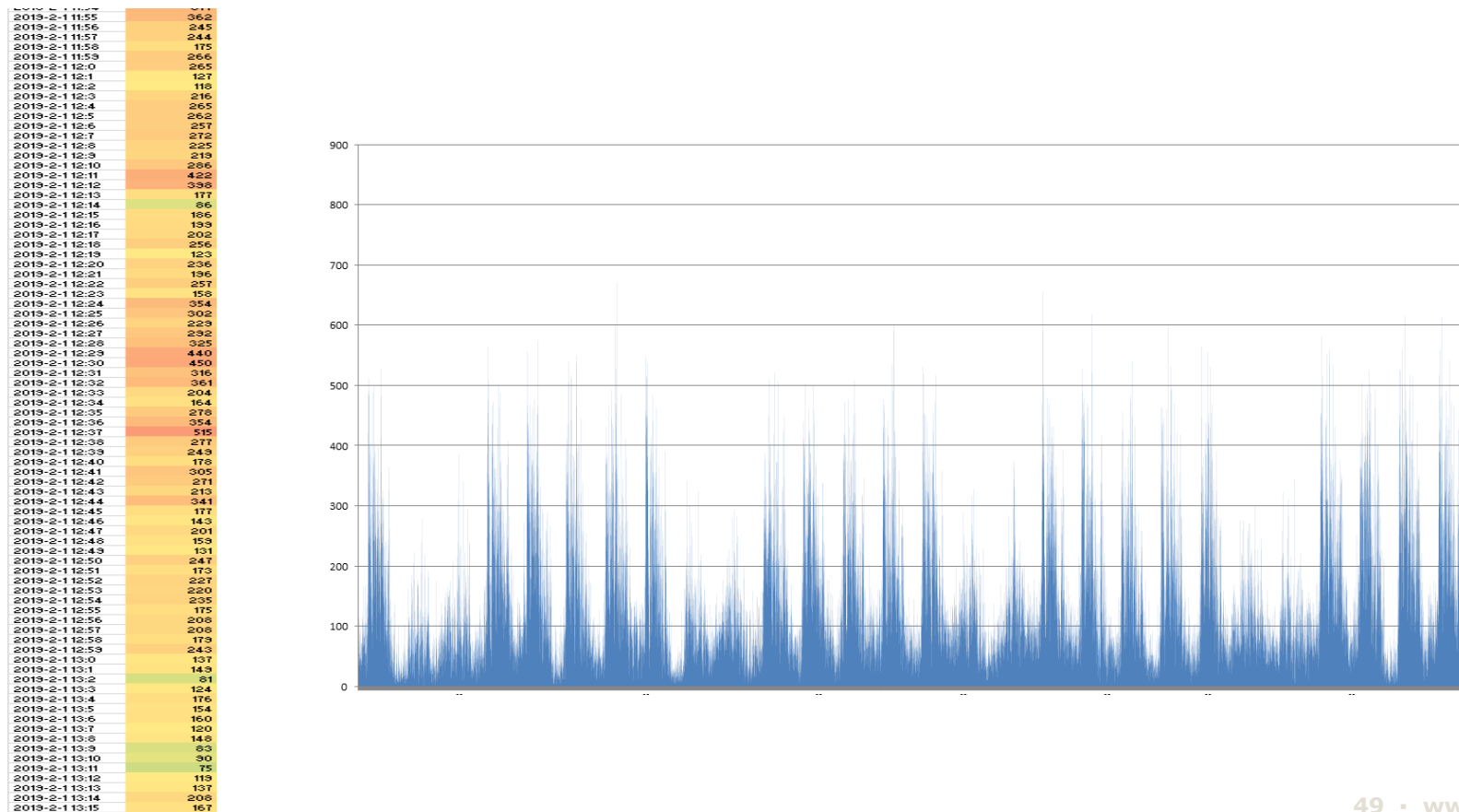
“Who did what”

To

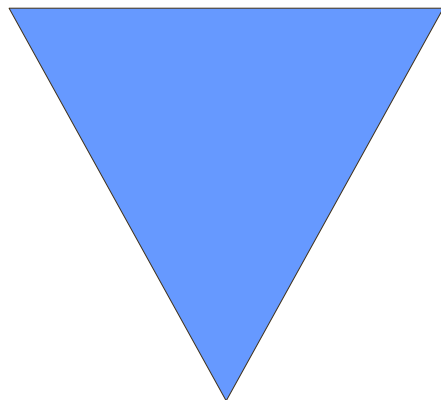
“Who can do that”



# From activity to decisions

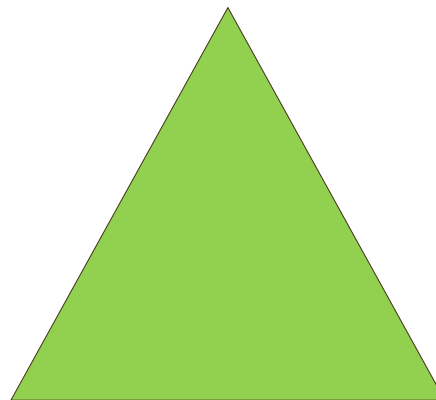


Enterprise

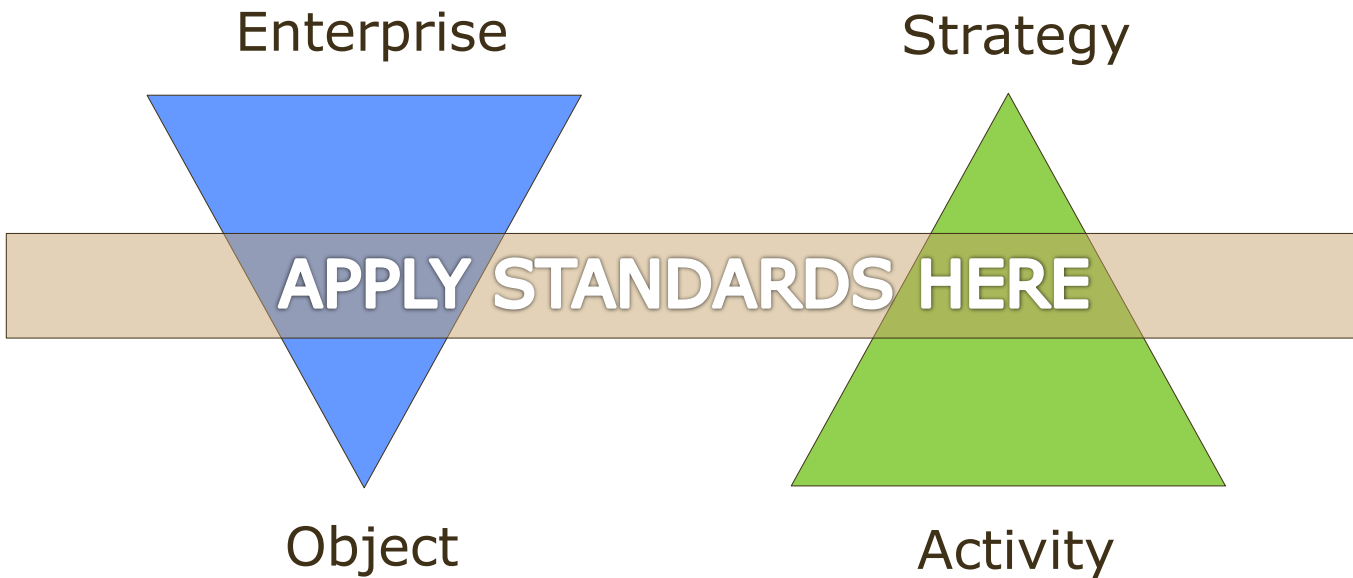


Object

Strategy



Activity



# Questions to the panel

**Thomas Klein,**

Head of Purchasing and Logistics,  
University Hospital Dusseldorf, Germany

**Keith Jones,**

Head & Neck Surgeon, Clinical Director of Head & Neck Surgery  
University Hospitals of Derby and Burton NHS Foundation Trust

**Henrik Stilling,**

IT Architect,  
Aarhus University Hospital, Denmark



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Queen's  
BURTON



Samuel Johnson  
LICHFIELD



Sir Robert Peel  
TAMWORTH



London Road  
DERBY

Thank you for your interest and participation

Enjoy the remainder of the conference!



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Samuel Johnson  
LICHFIELD



Sir Robert Peel  
TAMWORTH



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