

A pathway to scan medical devices in the Operating Room

GS1 Healthcare Webinar

Diederik Rood, Senior advisor ERP Solutions & Project leader Dutch Implant Registry Dijklander Hospital, Hoorn & Purmerend, the Netherlands

September 17, 2020



Welcome and thank you for attending!



- Welcome to our September 2020 webinar.
 - Thank you to our guest speaker Diederik Rood, senior advisor ERP Solutions & Project leader Dutch Implant Registry, Dijklander Hospital, the Netherlands
- Some housekeeping for today:
 - All attendees will be in listening-only mode
 - If you have questions during the presentation, please type them into the questions area and these will be monitored then answered at the end of the call
- After the webinar:
 - Within a week, the recording will be posted to: http://www.gs1.org/healthcare/hpac webinars
 - All previous webinars are also posted to this location, so please feel free to use this resource and share the link



GS1 Healthcare Webinars



Create a forum for the global clinical provider environment for thought leaders and adopters of GS1 Standards in healthcare. The final goal: improve patient safety, cost efficiency and staff productivity through the implementation of GS1 standards.

A forum for sharing and discussion

Identification of projects and case studies

A source of expertise and advice

- The practical realities of implementation of GS1 Standards in the care giving environment in regard to the impact on clinical care and patient interaction
- Supporting the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing
- To those involved in GS1 standards development, the wider Healthcare stakeholder community and senior executives/decision-makers to gain their buy-in and support for implementation of GS1 Standards



Specific GS1 Healthcare Activities



Webinars

- Bimonthly webinars open to all stakeholders interested in learning about GS1 standards implementation in the care giving environment.
- http://www.gs1.org/healthcare/hpac webinars

Awards

- At each global GS1 Healthcare Conference
- Provider Implementation Best Case Study Award
- Provider Recognition Award
- The prize: travel & accommodation to attend the next GS1 Healthcare conference
- http://www.gs1.org/healthcare/hpac

GS1 Healthcare holds two global conferences per year. In 2020 - due to the exceptional circumstances - we will host an online summit, November 17-19, 2020.



Presenting today

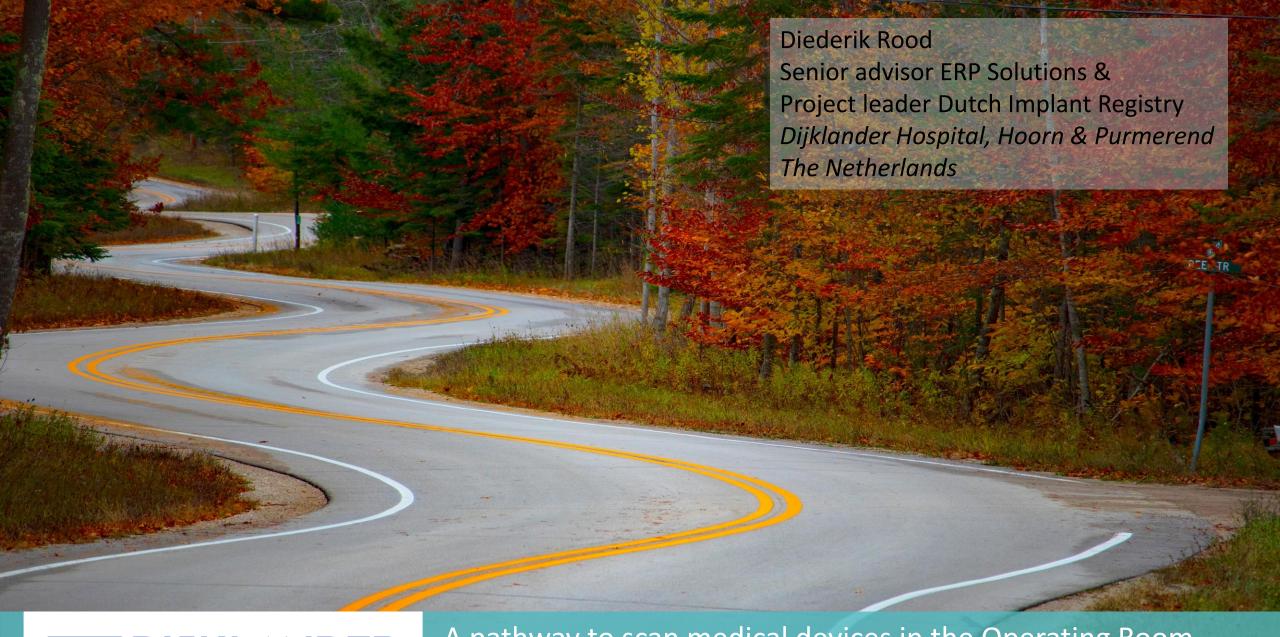




Diederik Rood

- Senior advisor ERP Solutions
- Project leader Dutch Implant Registry
- At the Dijklander Hospital, in the Netherlands
- Member of the GS1 Netherlands healthcare knowledge group







A pathway to scan medical devices in the Operating Room using GS1 UDI barcodes for efficient registrations, improved inventory management and patient safety

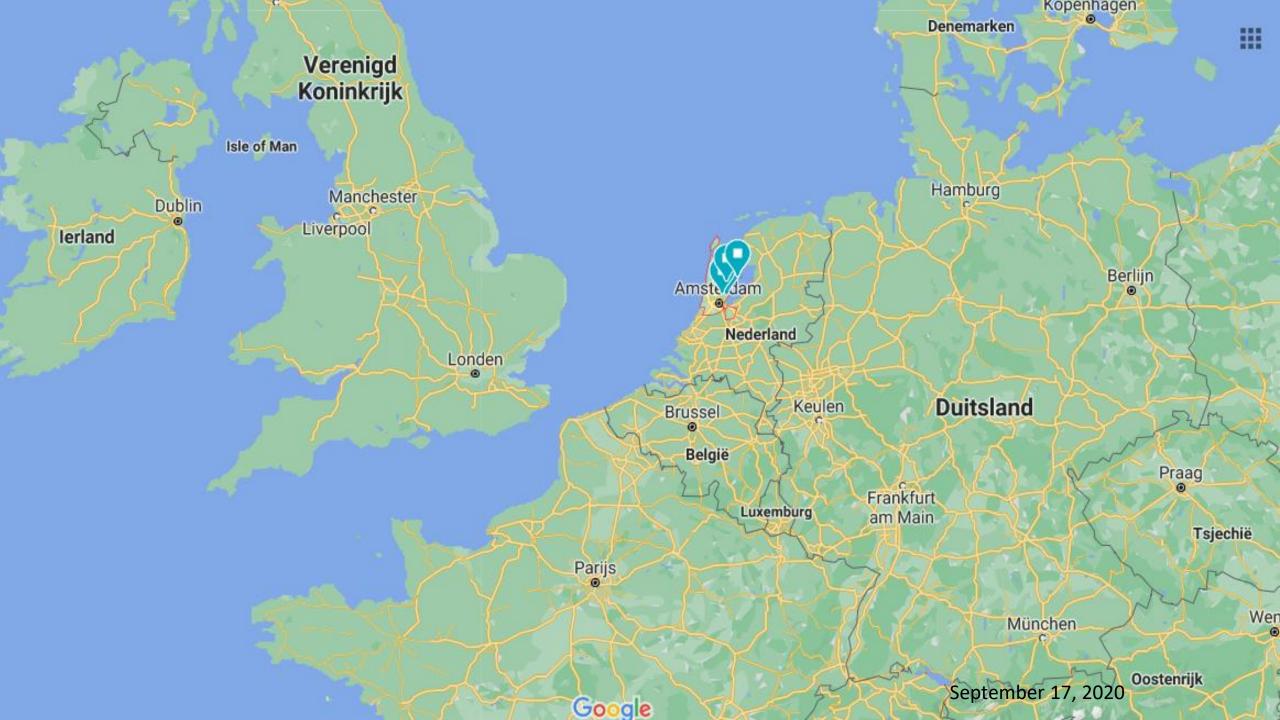
- Introduction Dijklander Hospital
- Operating room logistics
 - Why we started (goals)
 - How we started
 - Benefits of operating room logistics Lessons learned
- Dutch Implant Registry
 - Regulations Dutch Implant Registry
 - Gathering of data connect to GDSN
- Our solutions for gathering information
 - The next steps to take

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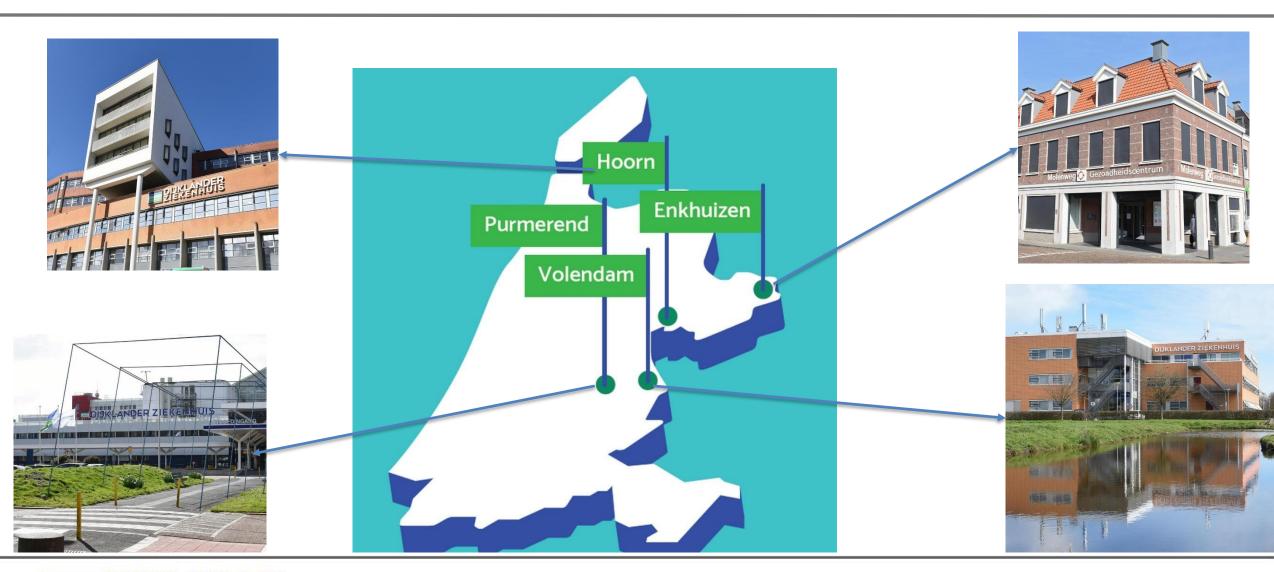
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Sept 17, 2020





Introduction Dijklander Hospital





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Goals

- Integrate the solution in three systems: ERP, EMR, MIS
- More efficient processes for the purchase, logistics, finance and Operating theatre departments
- Improved warehouse management
- Track and trace of implants to improve patient safety
- More accurate cost calculation of procedures
- Comply to medical registries



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Sept 17, 2020







How we started

- Appoint a broad project team
- Develop knowledge about barcodes
- Workshops to identify processes and solutions
- Our operating room logistics solution
- Collect Data









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UDI (GS1 barcode)

Application Identifiers (Al's)





- 01 GTIN
- 17 Expiry date
- 10 Batch number
- 21 Serial number



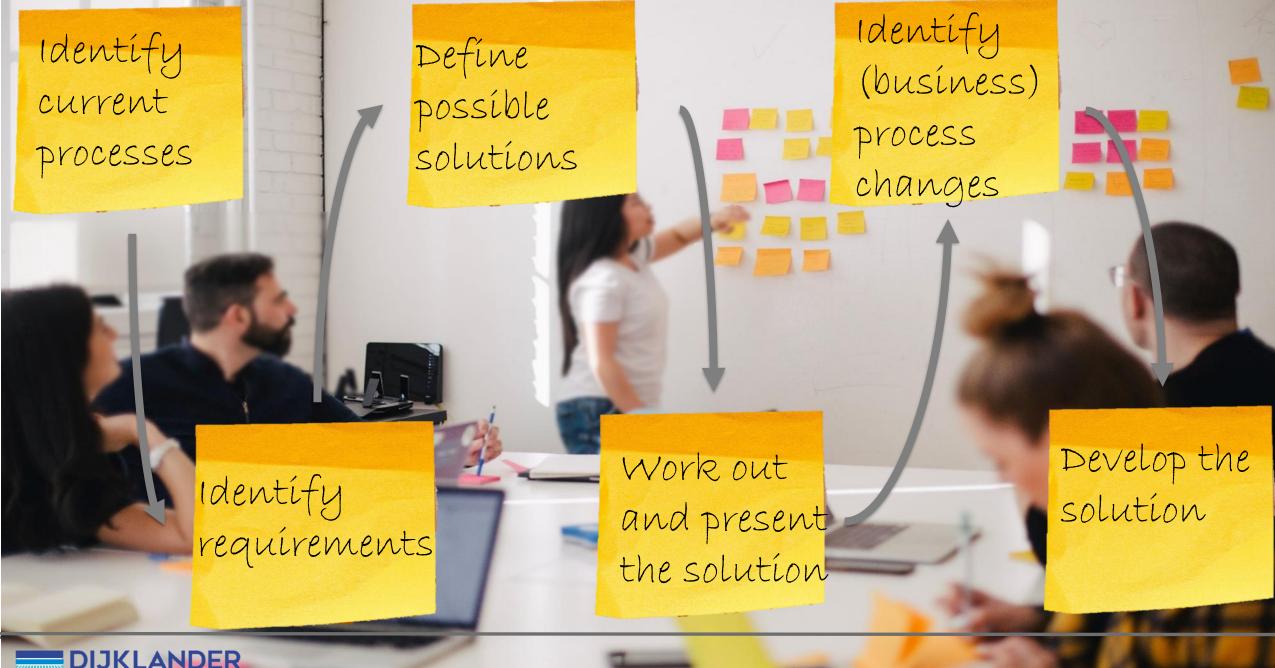




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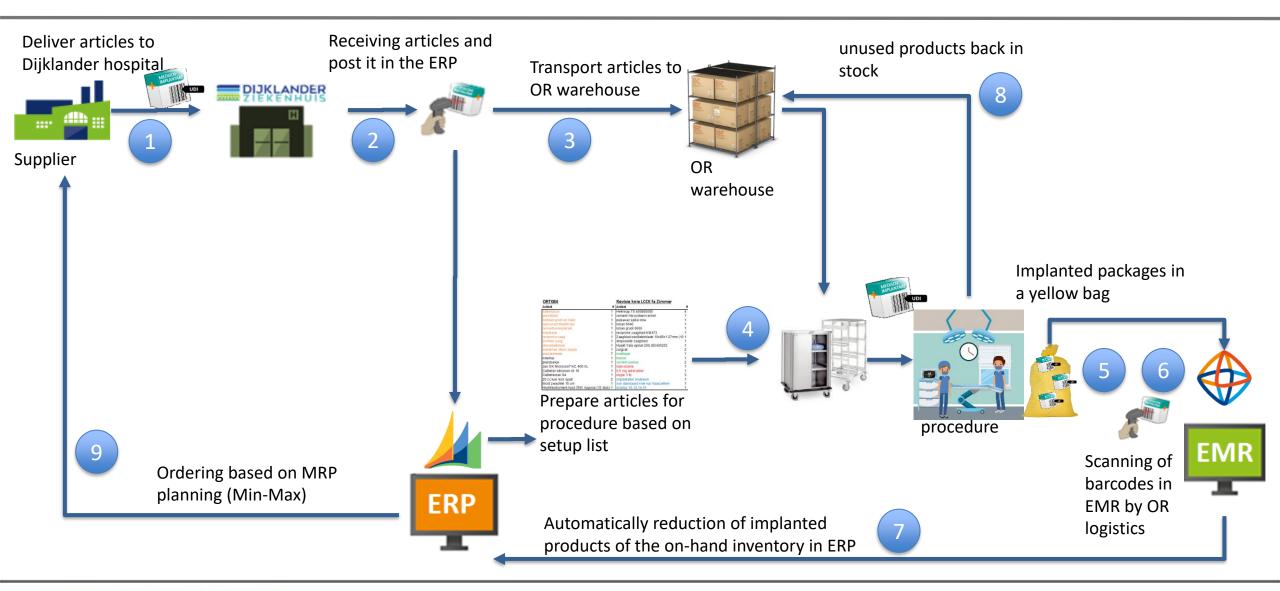


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Operating room logistics









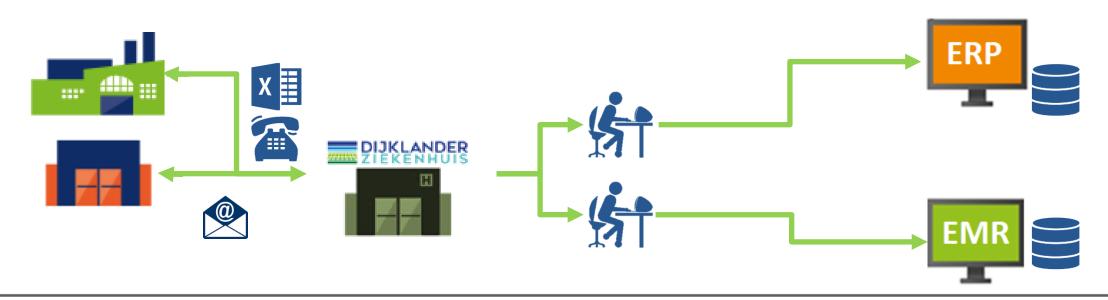
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Collecting product data in 2016 - 2018

- Contacting Supplier:
 - Collecting the product data (GS1/HIBC)
 - Gathering GTIN and product information
 - Uploading manually in our ERP and EHS





Collecting product data in 2016 - 2018

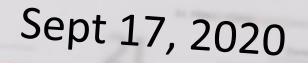
- Contacting Supplier:
 - Gathering product information (product description/external reference)
- Gathering by the hospital:
 - Manually registering GTIN based on:
 - Product name
 - External reference number
 - Manually processing the data into our ERP and EHS







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Overview of the expiry date

Products in stock with:

- Batch number
- Expiry date

Minimizing the waste of expired items



Item number	Search name	Batch number	Expiration date 🔺	Total availabl
319275	RetroButton 12 mm	10017758	1-11-2020	1,0
318423	Multiloc ø7 mm	5936825	1-11-2020	1,0
318564	Cortex screw ø2.4 mm	3607801	1-11-2020	2,0
319287	Biocomp. Screw	10260166	1-11-2020	2,0
314259	Endurant unicraft st	V08154689	5-11-2020	1,0
500745	BHX Implant 4mm	154737	18-11-2020	1,0
313067	Ooglens Tecnis 1-pie	9465761611	21-11-2020	1,0
502168	Prolong Lps-Flex Art	63214905	30-11-2020	1,0
317717 Stapler		P5L0594X	30-11-2020	1,0
319278	RetroButton 12 mm	10024233	1-12-2020	1,0
314255	Endurant unicraft st	V08176788	4-12-2020	1,0
318773	Cancellous screws	3640548	8-12-2020	1,0
314261	Endurant unicraft st	V08180415	9-12-2020	1,0
314261	Endurant unicraft st	V08180414	9-12-2020	1,0
502012	Stent Advanta	425795078	19-12-2020	1,0
500736	Bio-gide 25x25	81800351	21-12-2020	3,0
501660	Chronos strip 0,3 mm	DS7002029	1-1-2021	3,0
319273	Juggerknot 1.4 mm	779370	1-1-2021	1,0
319628	Silastic Rode 3mm	1481045	1-1-2021	1,0
318532	ASLS ø5.0 mm Selfta	2684953	1-1-2021	3,0
318541	ASLS ø5.0 mm Resorb	L258854	1-1-2021	4,0
318429	Multiloc ø7 mm	5937681	1-1-2021	1,0
502430	VBS w/Balloon	1217009	1-1-2021	3,0
314257	Endurant unicraft st	V08199469	7-1-2021	1,0
314263	Endurant unicraft st	V08216069	27-1-2021	1,0
314820	Endurant uni craft	V08222584	30-1-2021	1,0

Overview critical on-hand inventory

Overview with "critical" items

All the items with a stock value below the minimum stock are shown

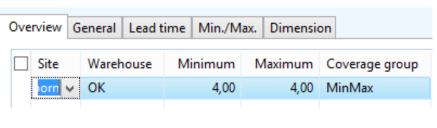
Kritieke voorhanden voorraad

Stichting Dijklander Ziekenhuis

Artikelnummer	Productnaam	Configuratie	Verrichti Kleur ngscod e	Site	Magazijn	Batchnum mer	Locatie	Min.voorra ad	Fysieke voorraad	Besteld
311973	Knieprothese flex femur maat F rechts 00596401652			Hoorn	OK			5,00	4,00	
312023	Knieprothese patella 38 00597206538			Hoorn	OK			7,00	6,00	
312038	Knieprothese tibial tray 6 00598604702			Hoorn	OK			6,00	5,00	
312053	Pinnacle 100 acet cup 50mm 121701050			Hoorn	OK			7,00	6,00	1,00
312054	Pinnacle 100 acet cup 52mm 121701052			Hoorn	OK			7,00	6,00	1,00
312056	Pinnacle 100 acet cup 56mm 121701056			Hoorn	OK			6,00	4,00	1,00
312063	Pinn mar 500DX28 ID 121928050			Hoorn	OK			7,00	6,00	1,00
312107	Heup Articuleze Biolox Delta kopje 28mm +1.5 136528310			Hoorn	OK			6,00	5,00	1,00
312121	Heup Corail2 std size 9 collared 3L92499			Hoorn	OK			3,00	2,00	1,00
312124	Heup Corail2 std size 12 collared 3L92502			Hoorn	OK			6,00	4,00	2,00
312126	Heup Corail2 std size 14 collared 3L92504			Hoorn	OK			5,00	4,00	
312192	Heup kop Pinnacle Apex Hole elim positive stop 124603000			Hoorn	OK			14,00	10,00	3,00
313093	Ooglens Tecnis 1- piece 25.5D			Hoorn	OK			4,00	3,00	
313094	Ooglens Tecnis 1- piece 25.0D			Hoorn	OK			4,00	3,00	
313098	Ooglens Tecnis 1- piece 23.0D			Hoorn	OK			12,00	11,00	
313100	Ooglens Tecnis 1- piece 22.0D			Hoorn	OK			13,00	12,00	
313101	Ooglens Tecnis 1- piece 21.5D			Hoorn	OK			13,00	12,00	

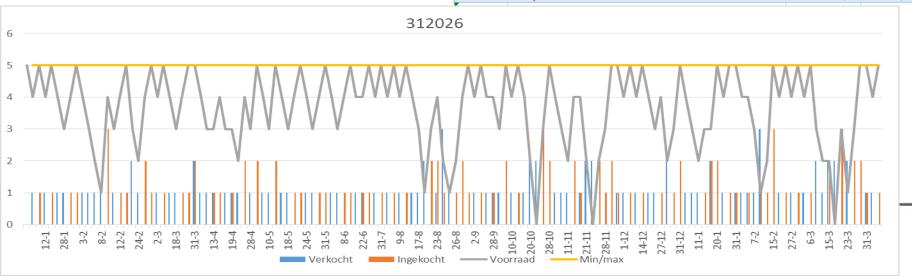


Adjustment of stock values



Adjust min/max stock values based on historical transactions

artnr. 🗐	Artikelnaam	Totaal 2019 🔻	max wv 💌	gem wv	Min 🔻	Max 💌	(Min vr- max wv) - 1 art voorraad 🔻
311955	Knieprothese Gender maat C links 00576401351	0,00	0,00	0,00	2	2	1
311956	Knieprothese Gender maat C rechts 00576401352	0,00	0,00	0,00	2	2	1
311957	Knieprothese Gender maat D links 00576401451	-1,00	-1,00	-0,02	2	2	0
311958	Knieprothese Gender maat D rechts 00576401452	-1,00	-1,00	-0,05	2	2	0
311959	Knieprothese Gender maat E links 00576401551	-1,00	-1,00	-0,06	3	3	1
311960	Knieprothese Gender maat E rechts 00576401552	-3,00	-2,00	-0,14	3	3	0
311961	Knieprothese Gender maat F links 00576401651	-2,00	-1,00	-0,09	3	3	1
311962	Knieprothese Gender maat F rechts 00576401652	0,00	-2,00	-0,26	3	3	0
311963	Knieprothese Gender maat G links 00576401751	0,00	-1,00	-0,02	2	2	0
311964	Knieprothese Gender maat G rechts 00576401752	-2,00	-1,00	-0,08	2	2	0
311965	Taper stem plug 00596009900	-4,00	-2,00	-0,38	3	3	0
311966	Knieprothese flex femur maat C links 00596401351	0,00	-1,00	-0,02	2	2	0
311967	Knieprothese flex femur maat C rechts 00596401352	-1,00	-1,00	-0,03	2	2	0
311968	Knieprothese flex femur maat D links 00596401451	-5,00	-3,00	-0,48	5	5	1
311969	Knieprothese flex femur maat D rechts 00596401452	-3,00	-2,00	-0,45	5	5	2



Recall data

Search name	Site	Batch number	Physical in	Physical reserved	Available	Ordered in	On order	Ordered re	Total avail	External item number
Knieprothese patella	Hoorn	64279521	1,00		1,00				1,00	0059726532
Knieprothese patella	Hoorn	64307699	1,00		1,00				1,00	0059726532
Knieprothese patella	Hoorn	64315706	1,00		1,00				1,00	0059726532
	Current on-hand inventory with batch number									

Batch number

Transaction overview where we can search where recalled batches are used

	Searc	h for batch numb	ers			Search for ope	eration number	
	OK	64324744	OK	28-6-2019		Production line	0000826078	-1,00
Zimmer BV (klnnr. 117279)	OK	64315706	OK	28-6-2019	6006710	Purchase order	19-043017	1,00
	OK	64238583	ок	27-6-2019		Production line	0000821123	-1,00
Zimmer BV (klnnr. 117279)	OK	64279521	ок	21-6-2019	2958899	Purchase order	19-042613	1,00
Zimmer BV (klnnr. 117279)	OK	64279521	ок	20-6-2019	2956676	Purchase order	19-042541	1,00
	ОК	642567	ок	20-6-2019		Production line	0000822932	-1,00
	OK	64297012	ок	19-6-2019		Production line	0000825111	-1,00
Zimmer BV (klnnr. 117279)	OK	64324744	ок	13-6-2019	2945204	Purchase order	19-042059	1,00
	OK	64279513	ок	12-6-2019		Production line	0000820281	-1,00
Zimmer BV (klnnr. 117279)	OK	642567	ок	4-6-2019	2930561	Purchase order	19-041299	1,00
	OK	64279513	ок	3-6-2019		Production line	0000824198	-1,00
Zimmer BV (klnnr. 117279)	OK	64238583	ок	15-5-2019	2900023	Purchase order	19-039844	1,00
	OK	64279513	ок	9-5-2019		Production line	0000817925	-1,00
Zimmer BV (klnnr. 117279)	OK	64297012	ок	8-5-2019	2889099	Purchase order	19-039751	1,00
	OK	64232819	ок	7-5-2019		Production line	0000819618	-1,00
Zimmer BV (klnnr. 117279)	OK	64279513	ок	3-5-2019	2882279	Purchase order	19-039480	2,00
Zimmer BV (klnnr. 117279)	OK	64279513	ок	3-5-2019	2882169	Purchase order	19-039432	1,00
	OK	64224635K1	ок	2-5-2019		Production line	0000827237	-1,00
	OK	64224635	ок	2-5-2019		Production line	0000820404	-1,00
	OK	64222622	ок	2-5-2019		Production line	0000820374	-1,00
Zimmer BV (klnnr. 117279)	OK	64232819	ок	26-4-2019	2871744	Purchase order	19-038586	1,00
	ОК	64224634	ок	25-4-2019		Production line	0000821130	-1,00
Zimmer BV (klnnr. 117279)	ОК	64224635K1	ок	18-4-2019	25861504	Purchase order	19-037986	1,00
Zimmer BV (klnnr. 117279)	ОК	64224635	ок	18-4-2019	25861504	Purchase order	19-037986	1,00
	ОК	64222622	ок	17-4-2019		Production line	0000820183	-1,00

Physical date

Reference

Number

Quantity

Packing slip

Location



Cost-price per procedure

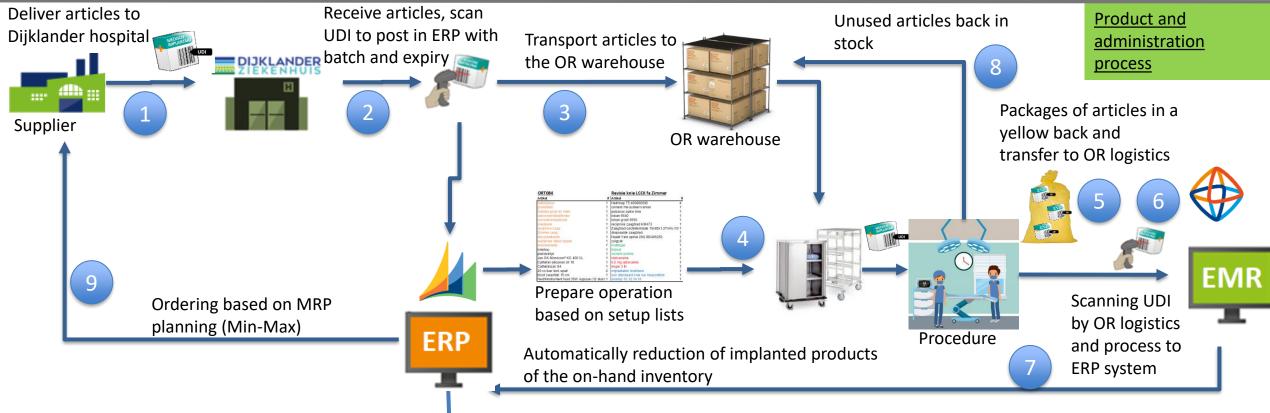
00	000	840583		Operation date: 3-12-2019					
Spe	ecial	ism: ORT		Quantity:	1,00)			
⊳	Pro	cedures							
Þ	Ref	ferences							
Δ	Ite	m consum	ption						
	☐ Item number		Batch number	Quantity	N				
		311975		64183360A19	1,00				
		312023		64428278E19	1,00				
		312039		63778641K17	1,00				
	502178			64202281	1,00				
\triangleright	Up	date							
Þ	Inv	entory dir	nensions						
\triangleright	Pro	ject							
Δ	Fin	ancial dim	ensions						
	D	efault finan	cial dimensions						
	Aı	rtikel:	ORT	ORTHO	PEDIE				
	Ko	ostenplaats:	2011	OK-chir	urgie H				
	Le	ening:		No defa	ult				
	Pe	eriode:		No defa	ult				
		roject:	OK	OK Logi:					
		pecialisme:		ORTHO					
	Ve	errichting:	338662T	KNIE - T	OTALE PROTHE	SE ARTROPLASTIEK			

Each procedure is posted in the general ledger account with the financial dimensions: specialism, procedure, products for management information and insight into cost price per procedure

L	ltem number	Consumption registration	Quantity	Unit	Proc	duct name	Description		
	312023	Consumption afterwards	1,0000	ST	Pate	ella 38			
	502178	Consumption afterwards	1,0000	ST	Prol	ong Lps-Flex Art Surf Gh/7-10 12			
	312039	Consumption afterwards	1,0000	ST	Knie	eprothese tibial tray 7 OPTION			
	311975	Consumption afterwards	1,0000	ST	Knie	eprothese femoral non-flex maat G rechts			
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	grondblad		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	batterijboor		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	botblad		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	kniesteun		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	knienavigatieset		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	bij 3de knie: VKB BHR knie nav.2		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	bij hemiknie uit-totale knie in; klein botblad		
	INSTRUMENT	Vrije-tekst	1,0000	ST	INS	TRUMENT	bij hemiknie uit-totale knie in; drevelbeitels	set	
	207846	Bulk item	1,0000	ST	knie	etray			
	085393	Bulk item	1,0000	ST	plak	doekje			
	206705	Bulk item	2,0000	ST	20 c	c luer lock spuit			
	301059	Bulk item	1,0000	ST	cem	nent mixsysteem enkel			
	086387	Bulk item	3,0000	ST	Heli	mkap T5 400800000			
	087046	Bulk item	1,0000	ST	loba	an 6640			
	087047	Bulk item	1,0000	ST	lob				
	305886	Bulk item	1,0000	DS	naa	Ovorviow with t	the setup list for		
	316205	Bulk item	1,0000	DS	He	Overview with	the setup list for		
	087087	Bulk item	1,0000	ST	tric	each operation v	with the scanned		
	225530	Bulk item	1,0000	ST	pul	•			
	078816	Bulk item	1,0000	DS	dis	ımp	lants		
	500496	Bulk item	1,0000	ST	Hec	nunstrument nuiu 55W Appose (12 stu			
	011630	Bulk item	1,0000	DS	Naa	ld Yale spinal 20G BD405253			
	230884	Rulk item	3 0000	DS	navi	inatieholleties			



Operating room logistics – complete overview



Article overview per procedure

- Overview by setup lists per procedure
- Scanned articles after consumption
- Compare the same procedures

Financial overview

- Insight cost price per procedure
- Compare procedures
- Negotiations with insurers

Management of inventory

- Order automatically based on min-max stock value
- Checking expired items
- Control loss and shrinkage
- Adjustments of stock value based on historical transactions

Track and trace:

- What is the routing of articles
- Which articles do we have in stock?
 Recall:

Results, insights and overview

- Quickly find the procedure where recalled batches are implanted
- How many items are on-hand?

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Lessons Learned

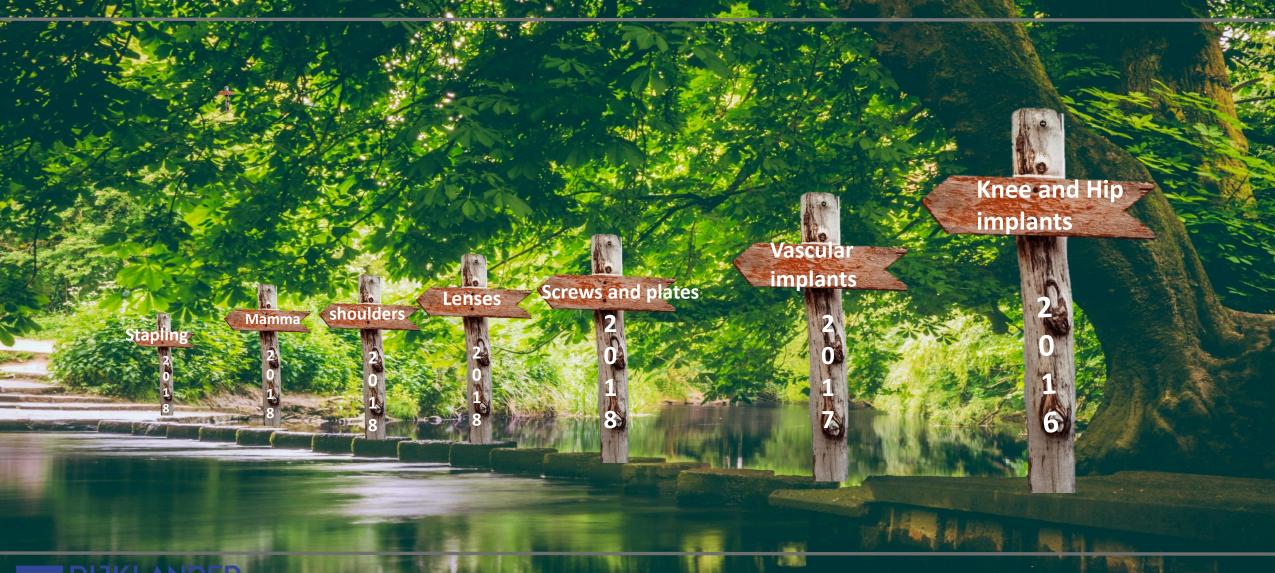
- Involve everyone and keep them informed
- Start small and scale up after success
- Centralize barcode scanning and processing







The pathway of Dijklander hospital





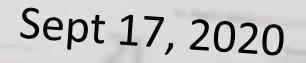
Centralize barcode scanning





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Dutch Implant Registry regulations

1. Register the implant data in the electronic medical record of the patient;



2. Providing the implant data to the patient in writing or digitally

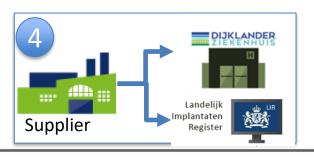


3. Sending implant data to the Dutch Implant Registry



- 4. Ensure that the supplier of implants makes the correct article data available to:
 - 1. The hospital;
 - 2. Dutch Implant Registry.







Data we need to receive via the GDSN

- 1. Product description
 - 1. Trade item description
 - 2. Functional name
 - 3. Brand name
- 2. External reference
- 3. GTIN of the product
- 4. GLN manufacturer
- 5. Brand owner or party name
- 6. GMDN Code
- 7. SNOMED Code
- 8. Additional trade Item Identification type (for HIBC Barcodes)
- 9. Additional Trade Item Identification (for HIBC Barcodes)





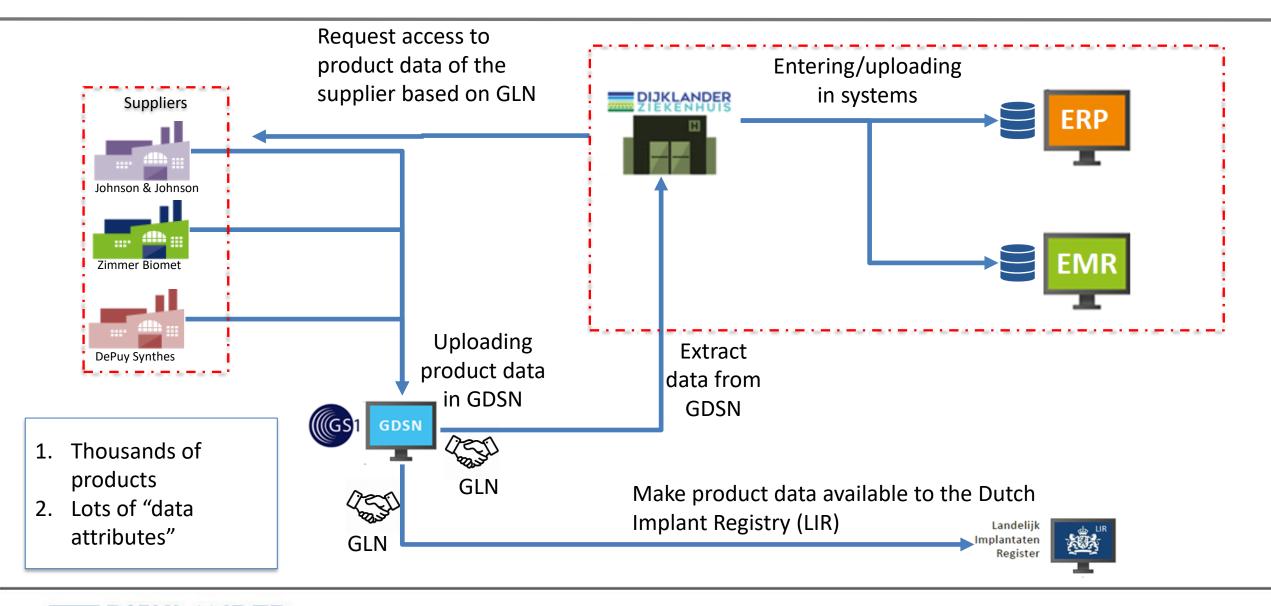
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Sept 17, 2020



Gathering of data – connecting to the GDSN



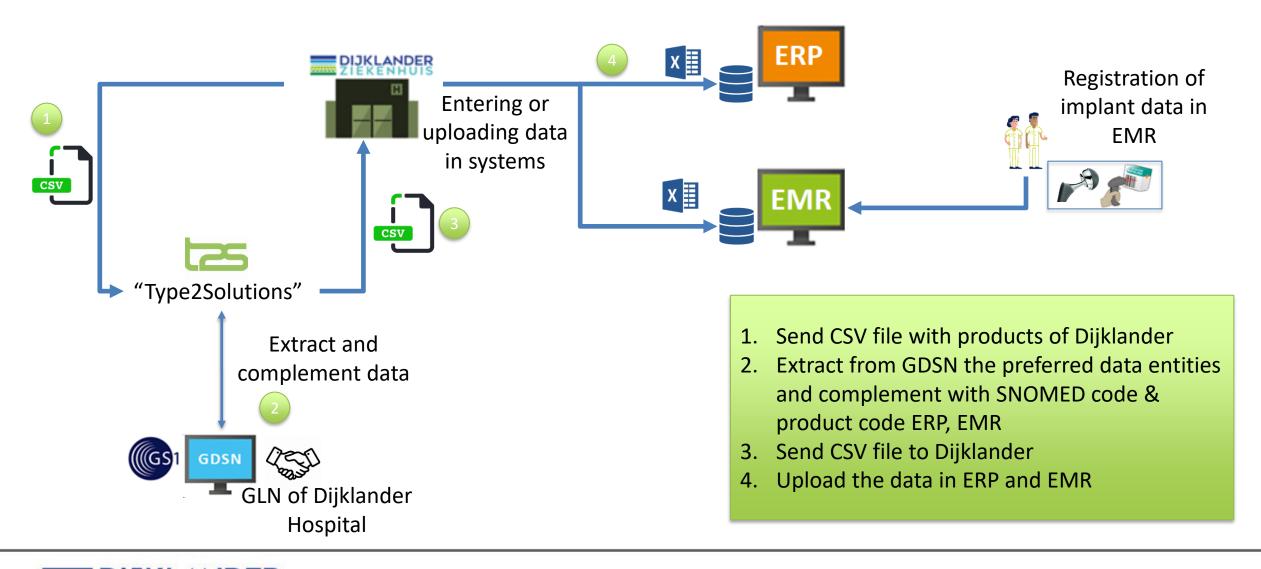


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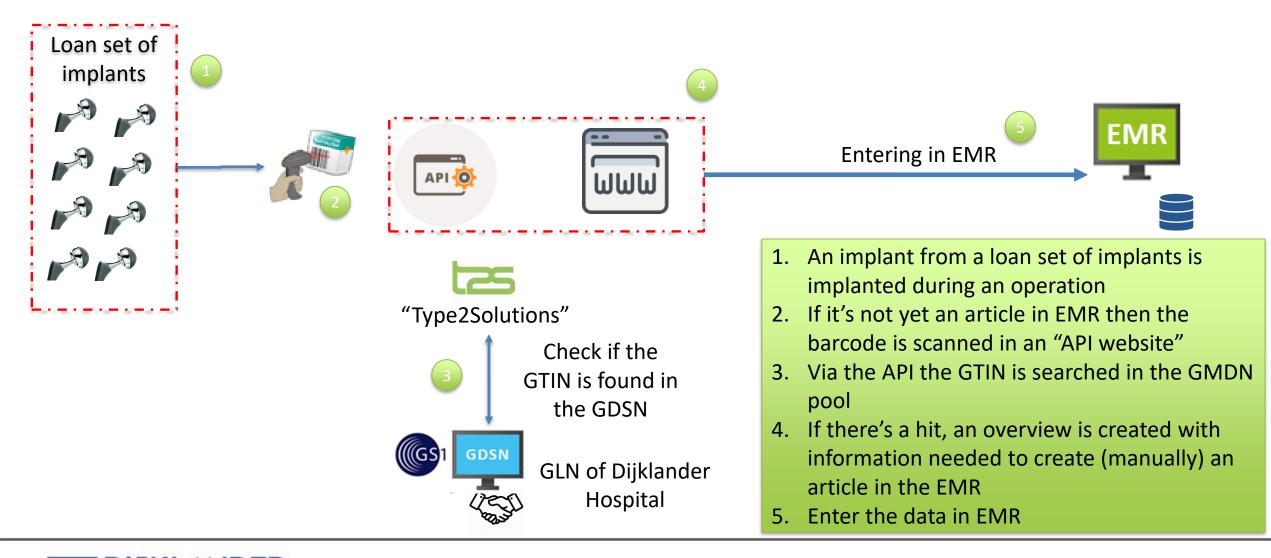
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Gathering the right product data – our solution



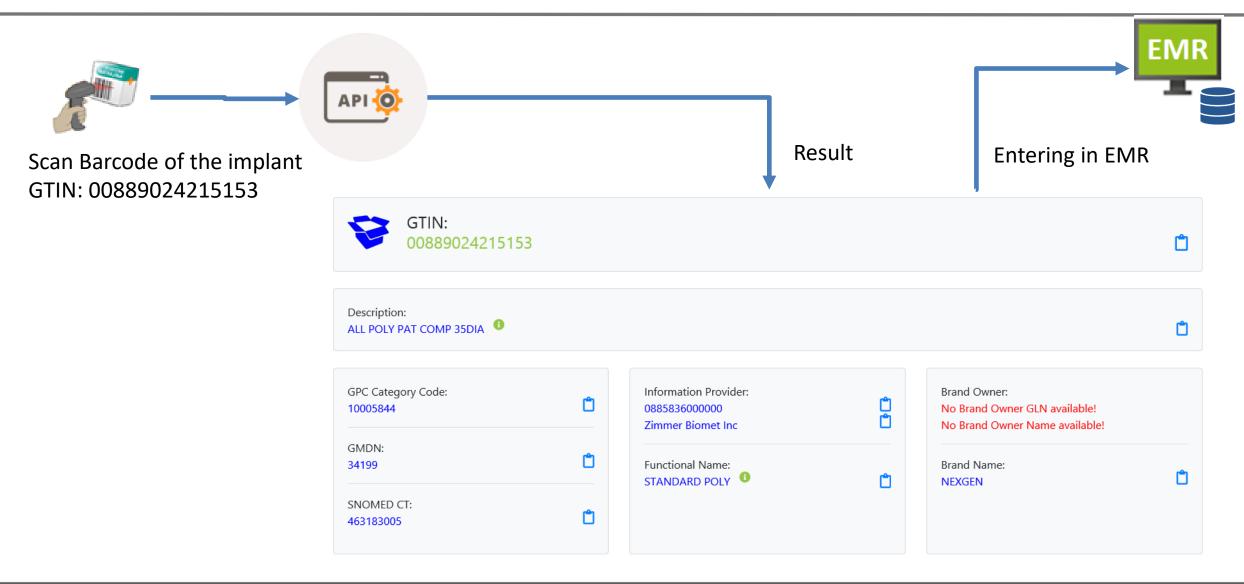


Gathering product data with API solution



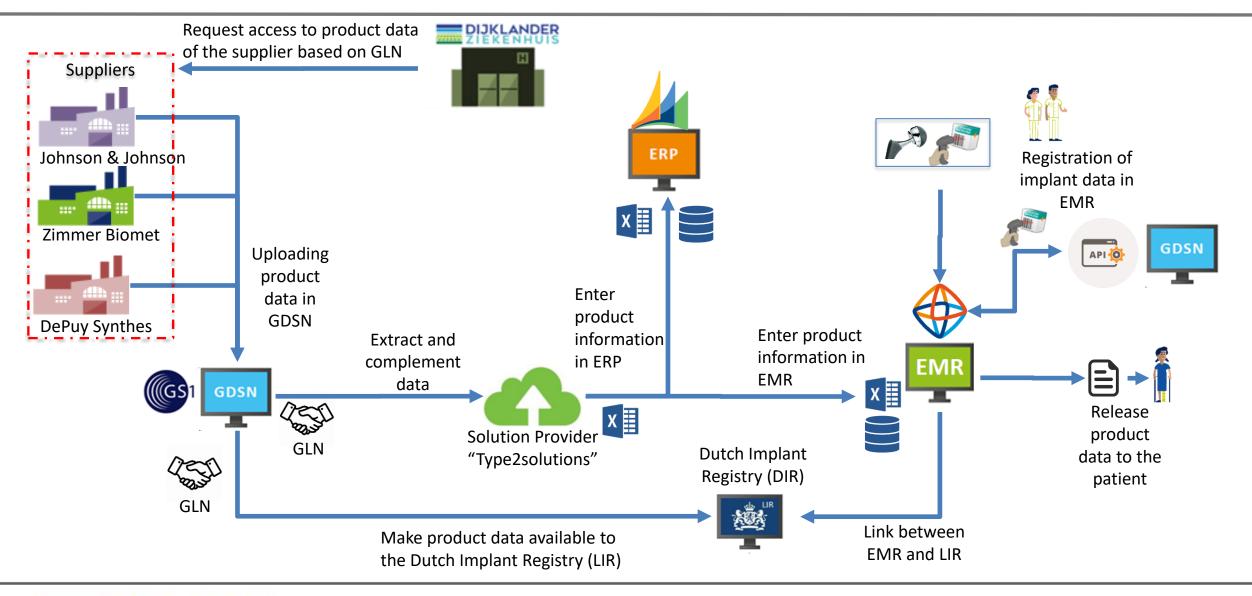


Quickly show the API





Gathering of data via GDSN – total overview





- Introduction Dijklander Hospital
- Operating room logistics
 - Why we started (goals)
 - How we started
 - Benefits of operating room logistics
- **Dutch Implant Registry**
 - Regulations Dutch Implant Registry
- Gathering of data connect to GDSN Our solutions for Gathering information

 - The next steps to take









Lessons Learned

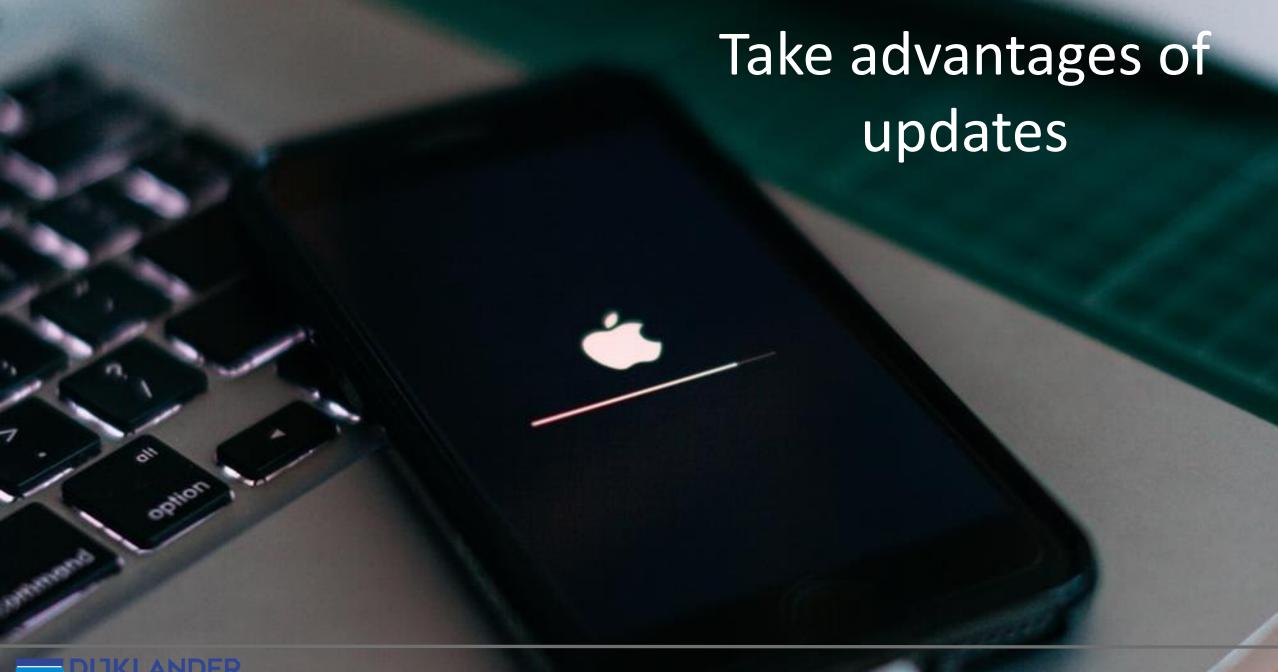
- Start to connect with the GDSN and make handshakes
- Monitor your data
- Together we can build a strong chain
- Take advantage of moments when systems are renewed or upgraded
- Continue to seek for improvements in processes



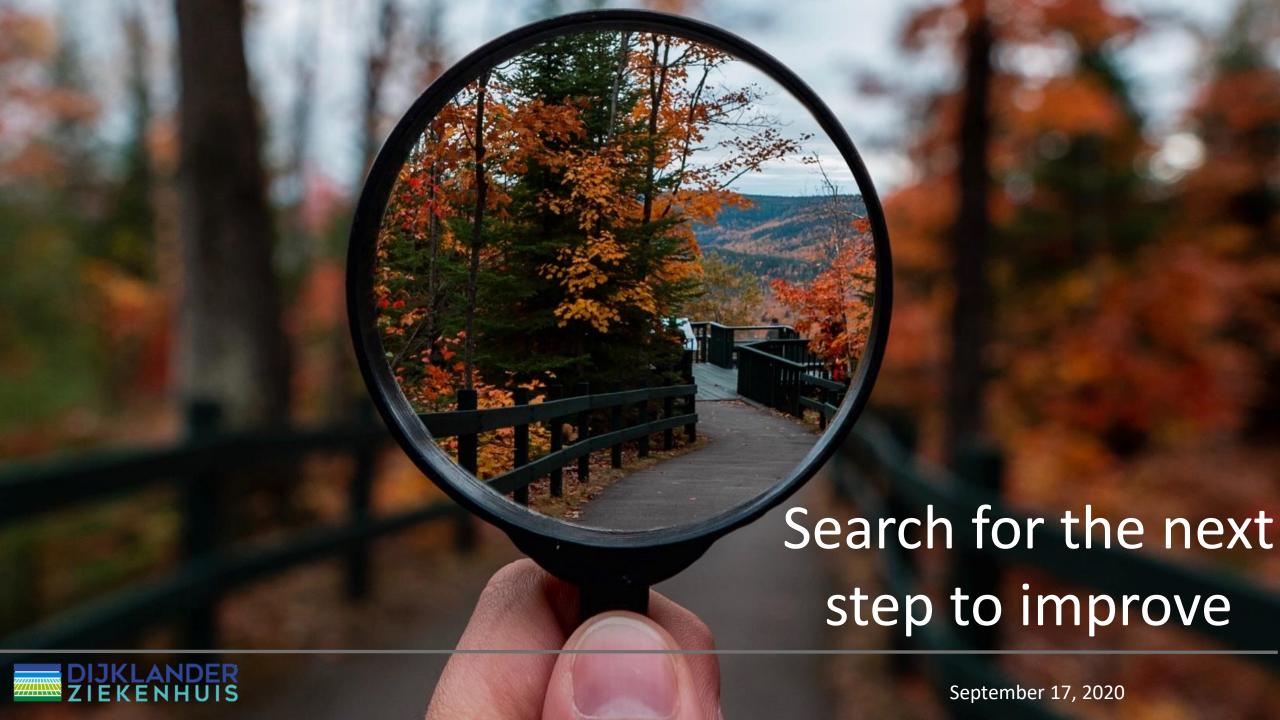












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GS1 Healthcare webinar:

Questions and contact details





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63