GenLots

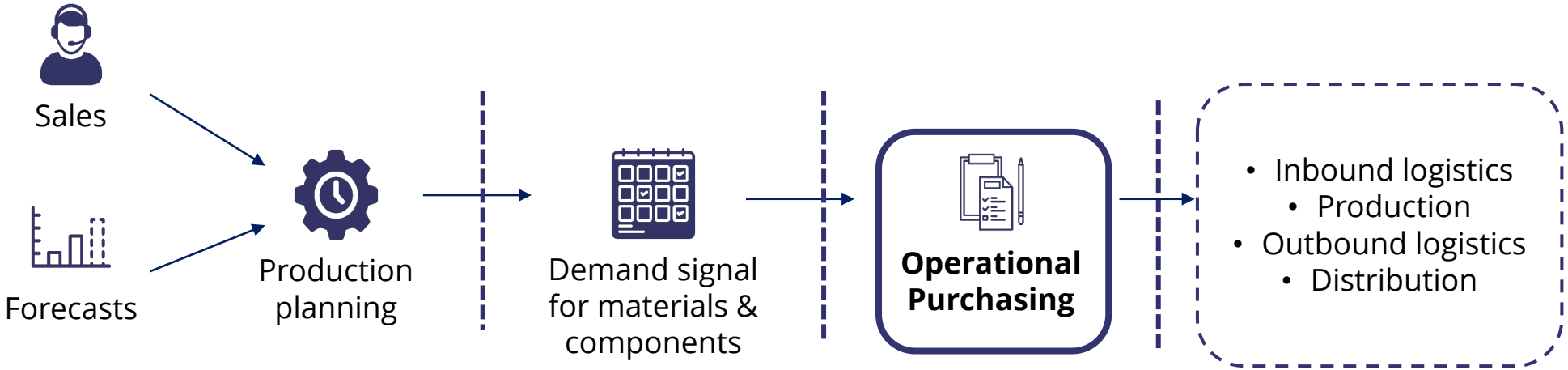
AI-Powered Efficiency With Every Order

Leaders in Life Sciences
Community & Innovation Symposium
October 30-31, 2025
Cambridge

SAP®

GenLots

Context

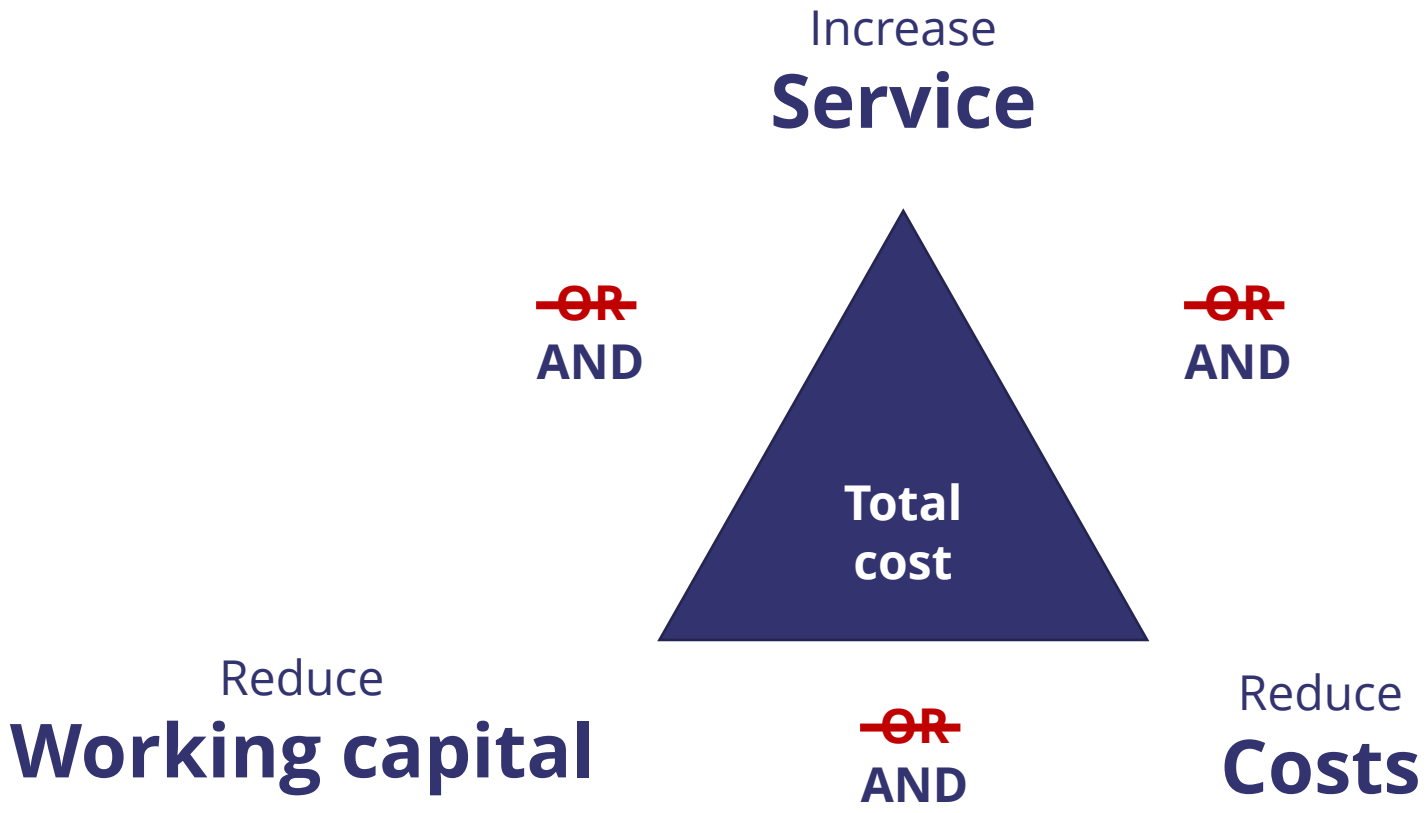


Allocates **quantity, timing and number** of orders for materials & components

=

order plan

The supply chain triangle



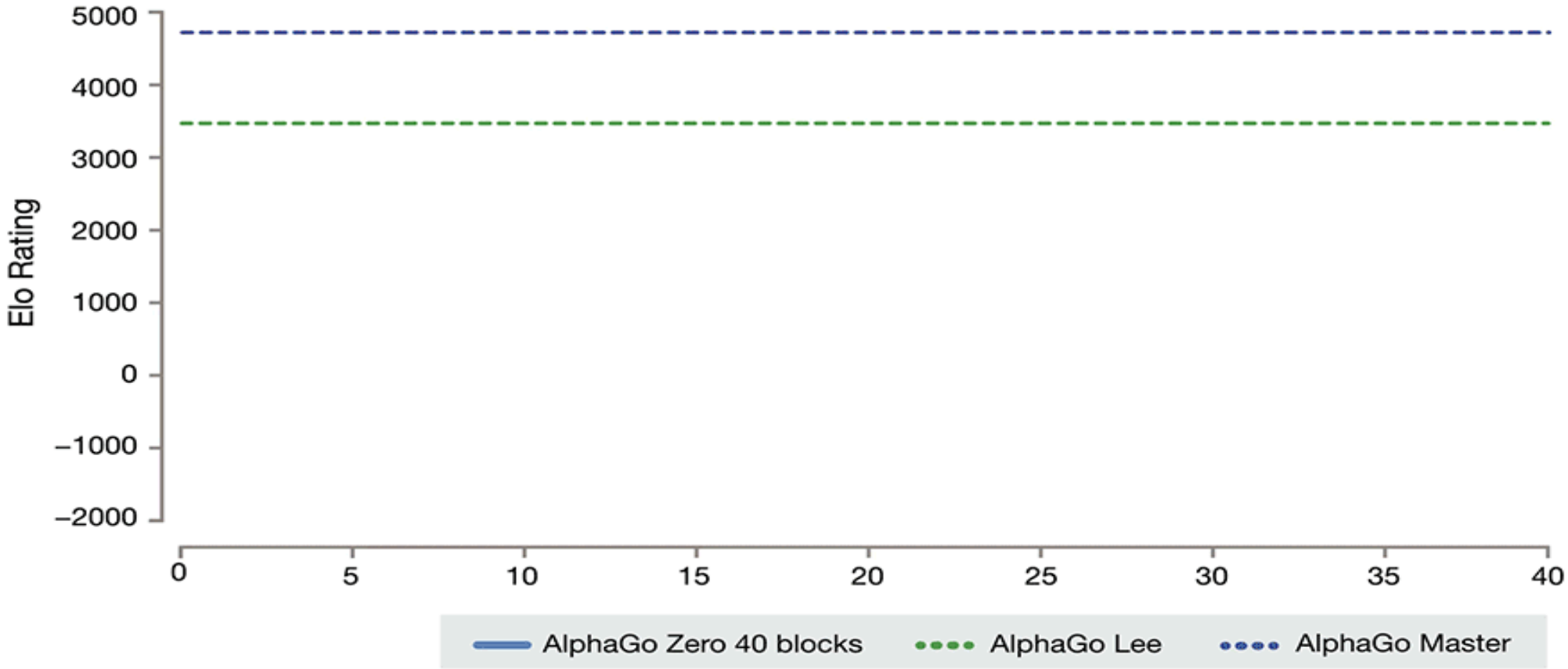
How GenLots Works

- GenLots minimizes the **Total Cost of Ownership (TCO)** for the company, **solving the triangle shown before**.
- GenLots optimizes across 5 dimensions:
  - **Acquisition cost** of the material (with scale prices if any)
  - Cost of getting the material in the warehouse at each order (“**order cost**”)
  - **Carrying cost**, i.e. cost of storage and cost of capital
  - **Material waste**, in case some material has to be thrown / unused
  - Risk limitation: avoid **stockouts**

EXAMPLE OF REINFORCEMENT LEARNING

AlphaGo Zero outperforms any Go opponent in 40 days - including supervised learning-models

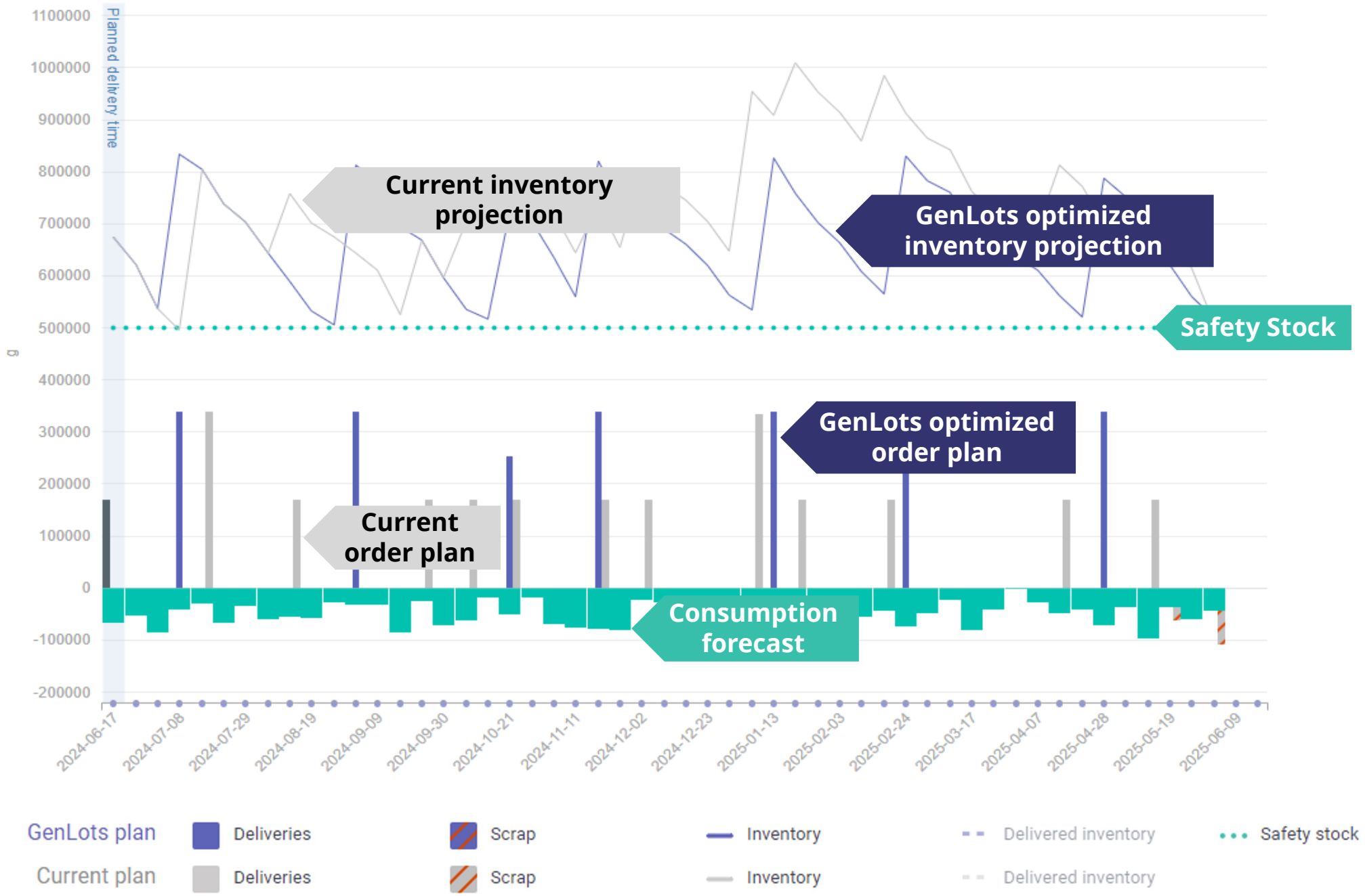
AlphaGo Zero does not need prior training data



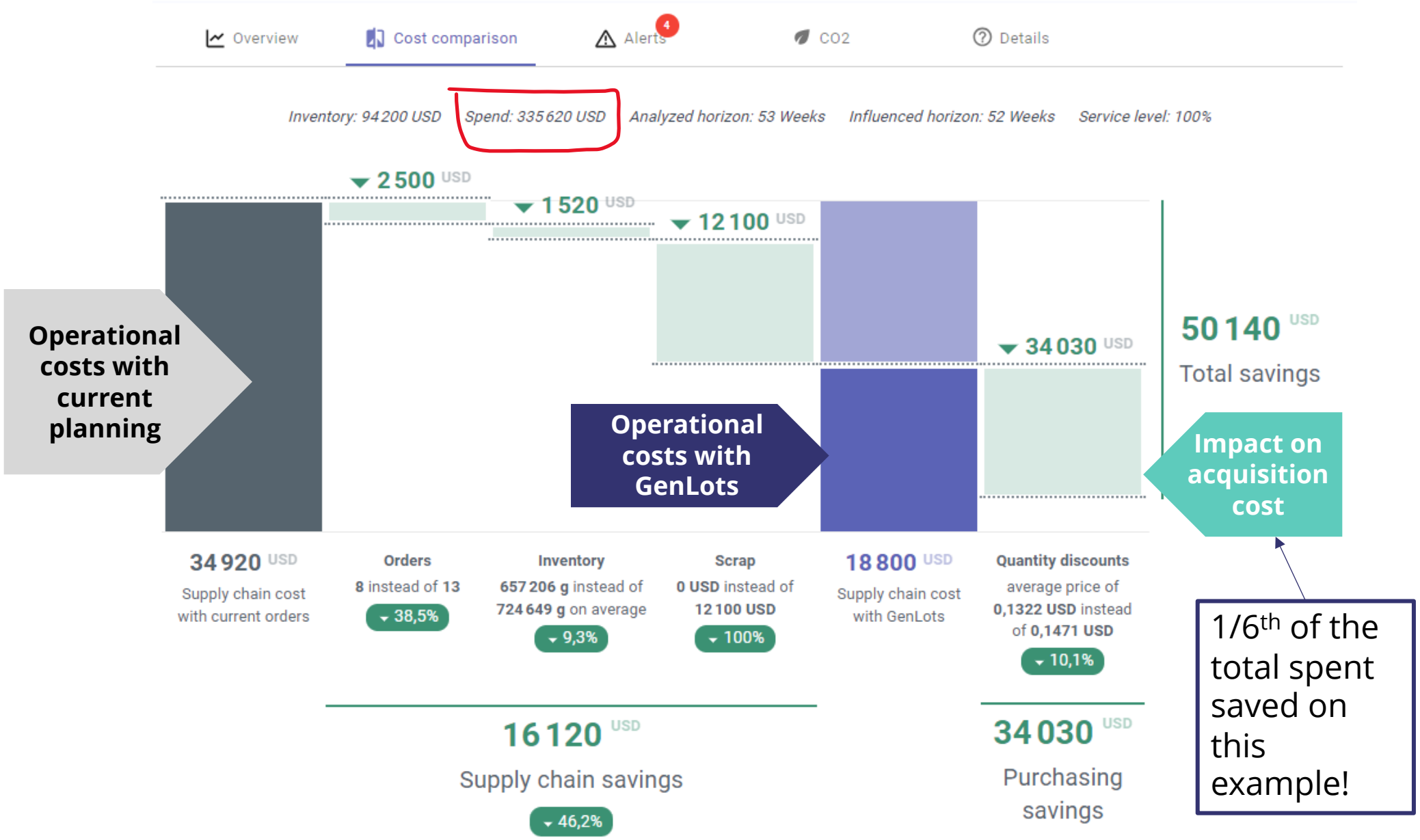
...Uber's dynamic pricing system (surges) uses this type of AI as well

GenLots

Example:
2 different (but similar looking) ways of ordering….

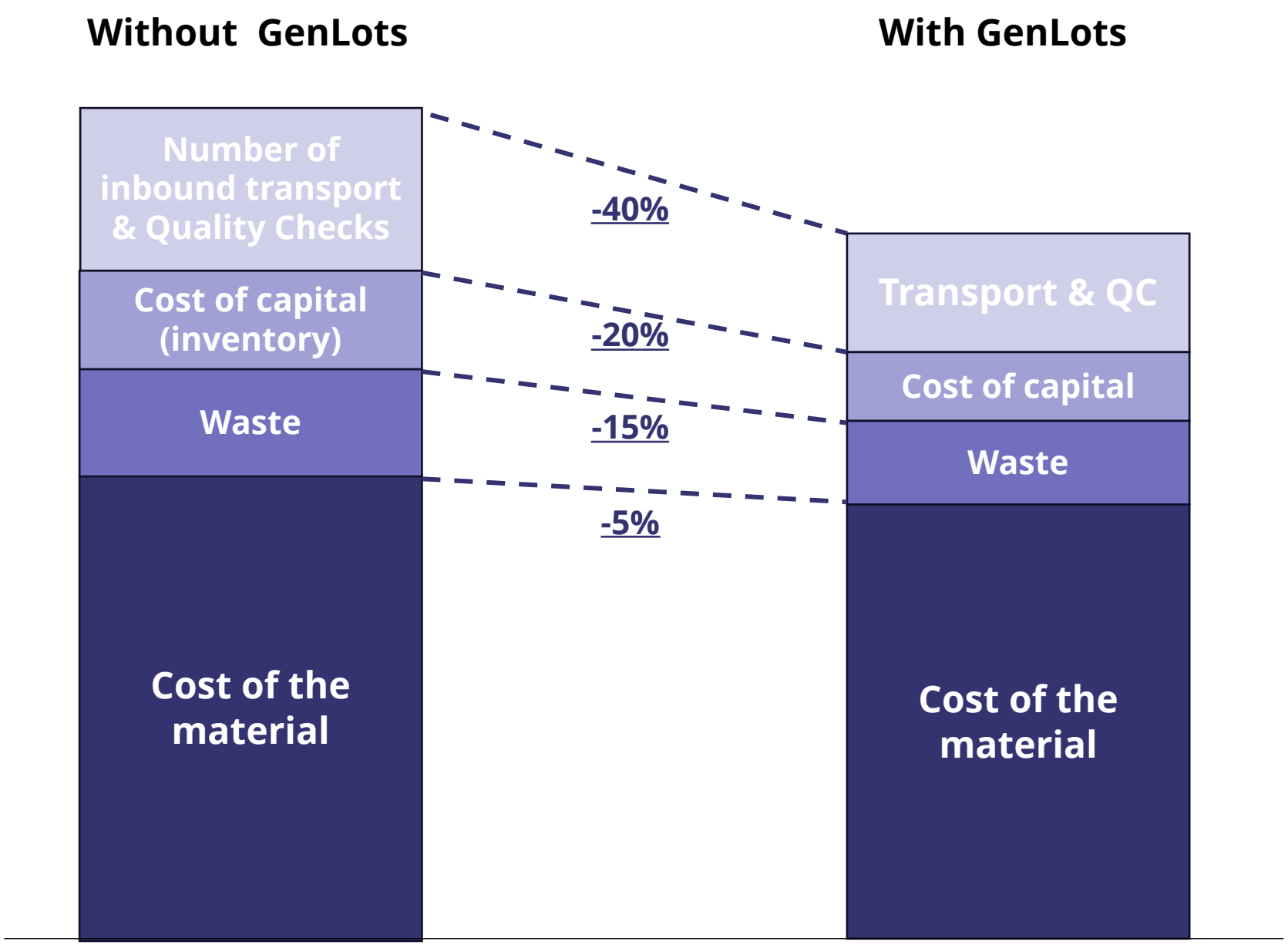


…lead to radically different results



1/6th of the total spent saved on this example!

Total Cost of Ownership (TCO) of a Material Over 1 year



*Source for the averages: 19 implementations, one-offs & pilots

[How much did you save with GenLots]

Example in Life Science

Biotech site in Switzerland
Chemical & active ingredients

5% less **inventory**

47% less **deliveries**

2% less **material waste**

5% lower **price** (unlocked discounts)

Planning **interface**

Easy Implementation

-

Process stays the same for users

-

No change management required

As is – no master data work needed

INPUT (CLIENT ERP)

DEMAND SIGNAL

+

FIXED / EXISTING PURCHASES FOR THAT MATERIAL

+

MATERIAL PARAMETERS

Safety: Coverage days, Safety stock & days, etc.

Any additional parameters: GR processing time, batches expiration dates, phase-in/phase-outs, etc.

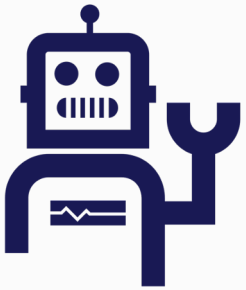
+

Cost factors: Transport, working capital, quality control, quantity discounts, etc.

Standard APIs

OrderAI

GenLots SaaS in the cloud



Standard APIs

OUTPUT (CLIENT ERP)

REPLACE PURCHASE REQUESTS

… and/or Planned Order, PO Items, etc.

How to get there?

Validate Business Case

We can estimate the savings potential as well as investment with around **5 questions**

Validate Technical Feasibility

1 hour with your technical team should give us an idea of effort & potential timelines

SAP Alignment

- Available on **SAP Store**
- Available on **BTP**
- Highly complementary **with IBP**

Outcome

- Validated Business Case and KPIs
- Implementation plan & timeline
- Signature-ready contract

Available on **SAP Store**

SAP Industry cloud

Appendix – Policy Advisor

GenLots

What else can we do by optimizing for Total Cost ? - simulations and master data optimization

1. Formulate a scenario

What happens if I...

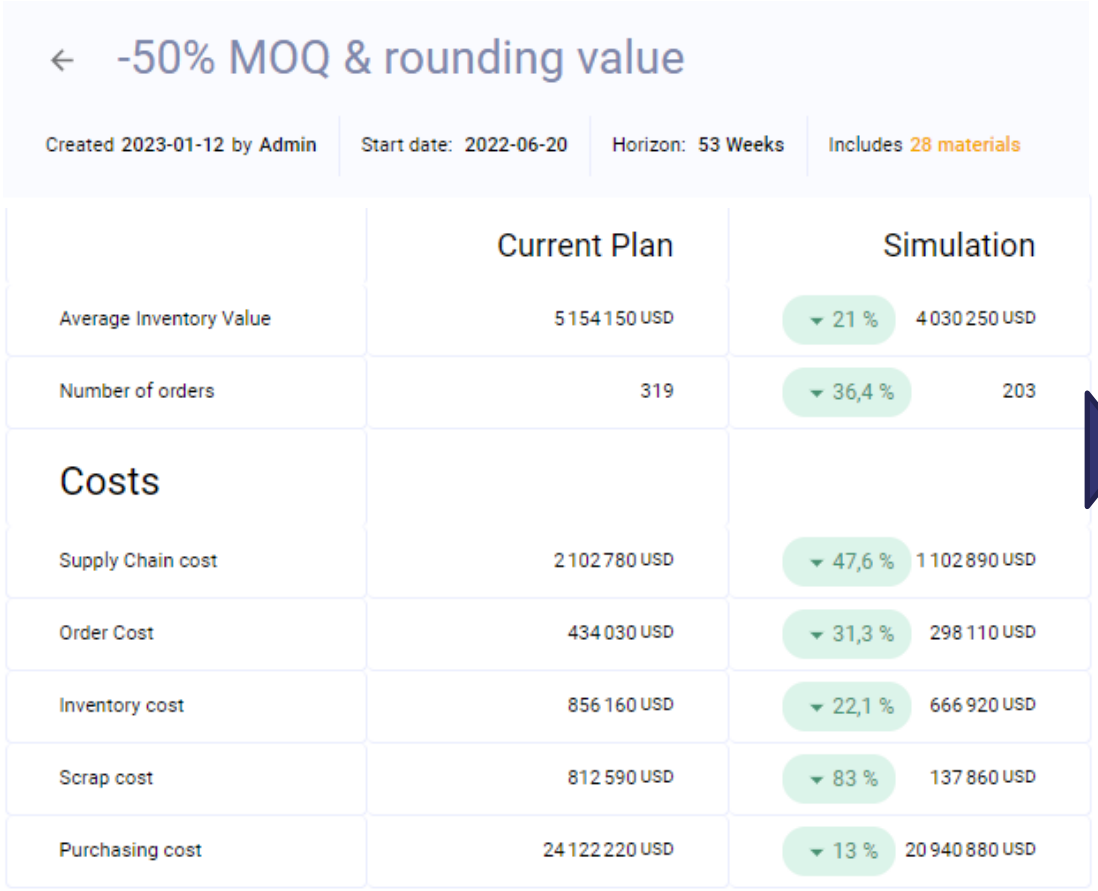
...**set a safety stock at 99% service level**? Inventory policy

...half the MOQs? Procurement parameters

...want to keep the Inventory below 1 M € for this set of materials

Financial objectives

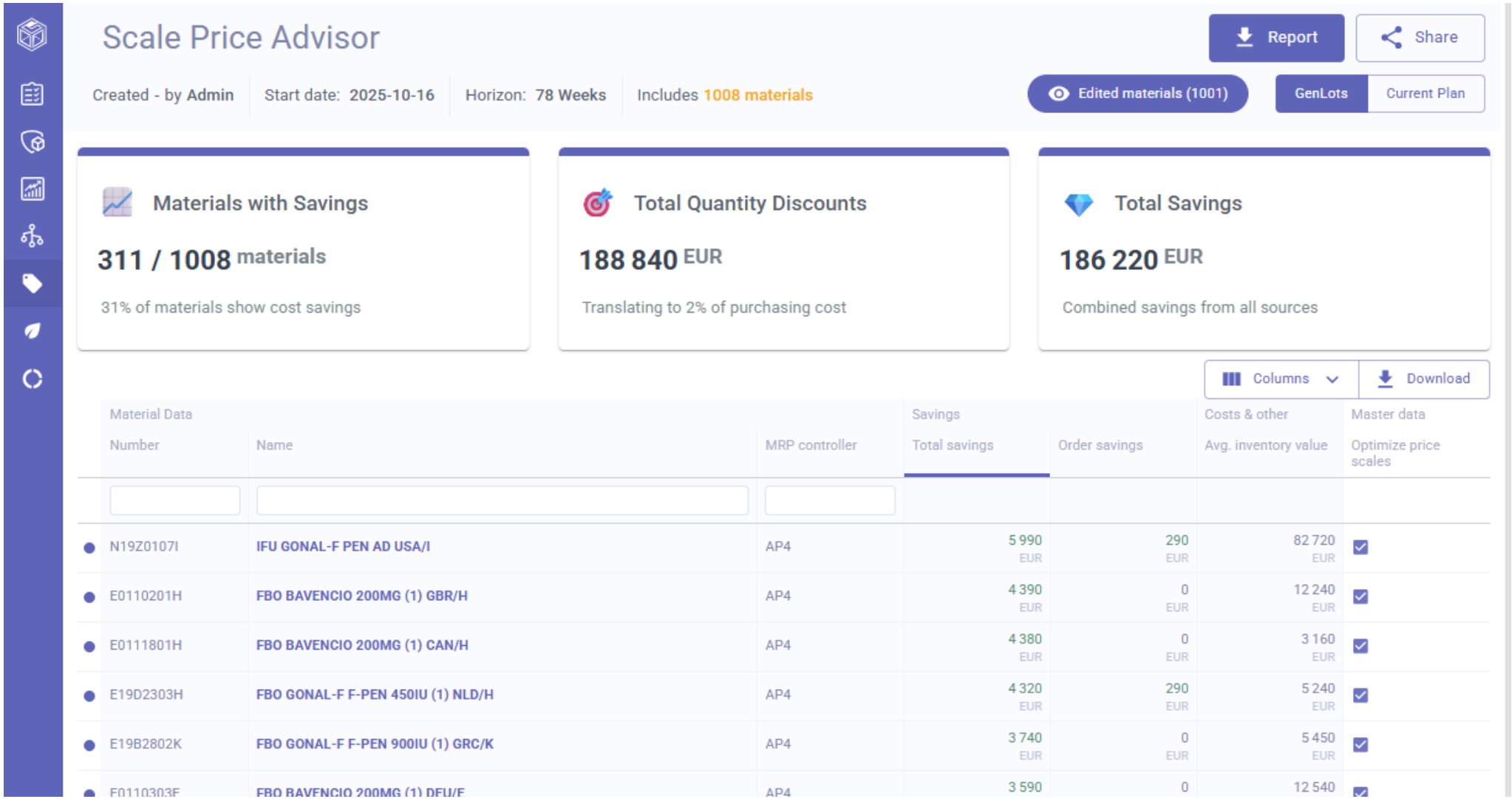
2. Verify the impact immediately



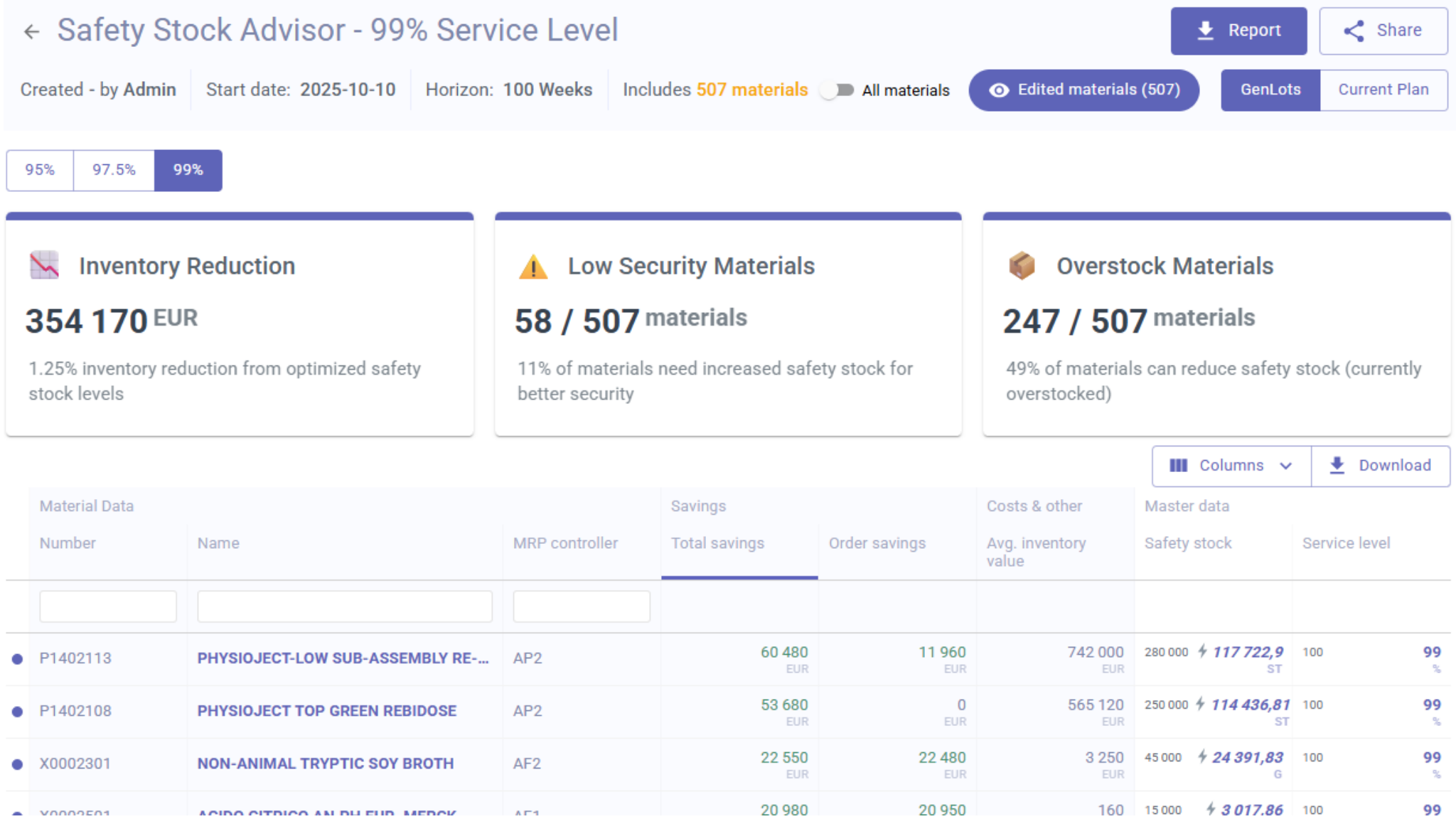
3. Implement

- **Manually:** share reports with stakeholders / S&OP meets
- **Automatically:** continuously update parameters in the system

Aligning 100% Order Planning And Scale Prices



Automate Safety Stock Updates

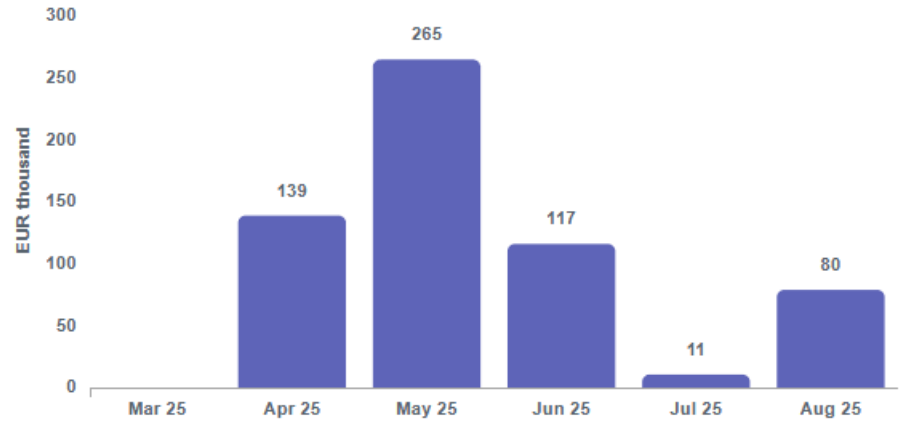


Easily track value generated by GenLots

GenLots

- Orders
- Safety Stock
- Reports
- Simulator
- CO2
- Value Tracker

Validated monthly savings



Total Savings

612,138 EUR

Total realized savings from all sources

Data

626 validated orders

Across 488 different materials

Inventory Savings

-19,893 EUR

Savings from reduced inventory costs

Order Savings

69,130 EUR

Savings from optimized ordering

Quantity Discounts

456,077 EUR

Savings from bulk purchase discounts

Scrap Savings

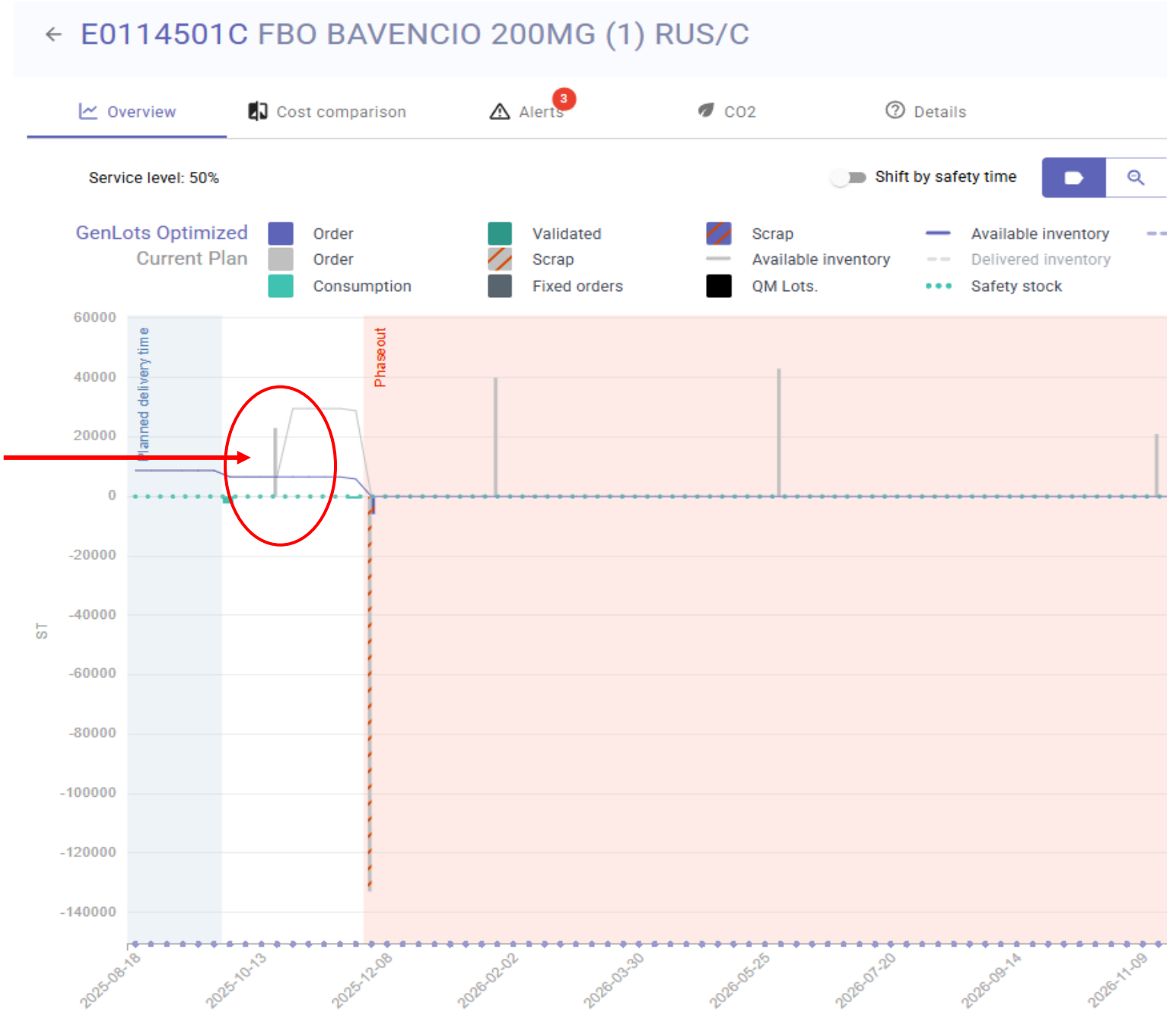
106,825 EUR

Savings from reduced scrap costs

Download

Automatically account for phase-outs

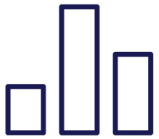
Avoiding **this order** results in EUR 8’942 savings



Difference with IBP

GenLots

GenLots within SAP ecosystem: a value enabler for IBP and other upstream optimisation

Task	 **Demand Planning**	 **Sales & Operations Planning (S&OP)**	 **Production**	 **Replenishment**	 **Logistics**	 **Inventory management**
Goal	Understanding future demand	Balancing sales and production activities	Planning and executing production	Computing material needs and purchasing patterns. **We refer here to **material flow** not finished goods*	Monitoring and executing transport of goods across various locations	Ensuring company has the right amount of goods to meet demand and minimize holding costs **We refer here to **finished goods inventory** ready to be shipped*
IBP modules	**IBP for Demand** Accurate forecasting	**IBP for S&OP** Cross company business plan	**IBP for Response & Supply** Synchronized demand and supply considering resource capacity	**IBP for Replenishment** Demand Driven MRP approach (pull) in which customer orders trigger material replenishment alternative: **Classic ERP MRP** Breakdown of production plans into future material needs (push)	**Supply chain control tower** Visibility throughout the network, also using other SAP functionalities	**IBP for inventory** Optimal inventory levels to satisfy customer service across all the network
GenLots	NA	GenLots provides optimal levels for procurement parameters, like scale prices, or safety stock for inbound materials	NA	**Operational purchasing** **GenLots computes optimal purchasing patterns once material needs are given with superior performance.** It complements the ERP and IBP, leveraging improved data quality.	GenLots reduces amount of transport required for a similar total output on a given production horizon	NA

About GenLots

GenLots

GenLots at a glance

Founding team - Headquartered in **Lausanne, Switzerland**

Arnaud
Managed a VOD startup with B2B clients and 40k subscribers

LSE

Simon
Developed the algorithm
Experienced digital transition engineer

EPFL

ETH zürich

Key investors

Prof. Dr. Stephan Wagner
Director Supply Chain MBA ETH Zürich (Top10 world), chair of Logistics department

ETH zürich

FLY VENTURES

Fly Ventures
Berlin

ACE & Company
Geneva

PLUGANDPLAY

Plug and Play
San Francisco

Accolades

venture leaders

Venture leaders Technology

MASSCHALLENGE H-FARM

Mass Challenge & H- Farm

European Commission

Seal of Excellence European Commission

Proof of Value & pilot

How to

GenLots

	GenLots Proof of Value (POV)	GenLots Pilot
Concept	• Test 50 materials offline • Data exchanged by Excel	Implementation followed by a 6 to 8 weeks live run
Benefit	Scan of your Operational Purchasing performance	• Detailed performance review throughout all material categories (no cap on number of materials) and optionally across sites • Start optimizing already during this phase
Effort	• 2-man days from user to prepare and export the data • Meeting with stakeholders to present the report • X2 if we do “two rounds” (edit master data, add granularity, etc.)	• 2-5 man days for IT department to validate the architecture and to configure our integration with SAP • 1-5 man days of project activities with a material planner (key user) for validation and testing and to a lesser degree a financial to validate the cost structure
Next step	Live integration	• No additional integration needed unless it’s for another instance • Scaling up in due time
Investment	Time & materials @ CHF 200.-/hour. Estimate: CHF 5 - 7 K	Time & materials @ CHF 200.-/hour + pro-rata of the licensing fee for the live run Estimate: CHF 30 -50 K

Proof of Value

-

1. Material scope

How many materials?

- Ideally **20-50 materials**
- There is **no limit** on the number, but experience has shown that discussing **in depth** fewer, representative materials is efficient

Which materials?

- **Representatives** from all categories (A, B, and C / X, Y and Z) is better to get a full picture of where the biggest potential lies
- If you have materials with **scale prices**, please include some
- We like a **challenge**. So if some materials had stockouts, scrap or you suspect wrongly set safety stocks, lead times etc. - bring them on!

Exceptions

- Materials to **avoid:** Reorder Point materials which have no dependent requirements in the system
- Materials you know have a special planning schedule (i.e. one train per month from Rotterdam)

Proof of Value

-

2. Define Cost

Carrying cost

	Typical values	Value for Pharma
Opportunity cost of capital	7.4-10%	7%
Storage and storage surface	2-4.2%	1.5%
Deterioration & Loss	4-6.4%	4%
Insurance	1%	0%
Material handling	1%	1%
Tax	0-2%	0%
Total carrying rate	**15.4 - 24.6% 17% default**	**13.5%**

Order cost

	Typical values	Value for Pharma
Time place to order	100 €	150 €
Warehouse intake	150 €	200 €
Transportation & CO2	TBD	TBD €
Internal quality control	300 €	1000 €
External quality control	0 €	700 €
Cost of sample	0 €	0 €
Total cost per order	**550 €**	**2050 €**

The first estimate can be very rough. Later on we can still split by category and go deeper into the cost per order.

Proof of Value

-

3. Data requirements

Parameters needed	SAP Table	SAP field
Price of the material	MBEW	STPRS
Safety stock in units	MARC	EISBE
Order quantity	MARC	BSTMI, BSTFE, BSTMA
Rounding value	MARC	BSTRF
Supplier lead time	MARC	PLIFZ
Shelf Life	MARA	MHDHB
Goods Receipts Processing time	MARC	WEBAZ

Parameters needed	SAP transaction
Forecasted material requirements	MD04
Orders currently planned	MD04

Pilot - High level approach

	1. Implementation ~6 weeks	2. User Testing & write-back 1 month	2. Roll out < 2 weeks
Objective	Interface ready for testing on full scope	• Validate Business Case • Validate implementation	Roll-out to production
Business stream	• Select scope • Define cost structure & success metrics	• Get planner feedback • Track success metrics	Planner training
Technical Stream	• Define and validate communication schema and data structure • Develop & test read only interface	• Incorporate test results • Define and implement write-back of orders into ERP	**Ideally: all is already done**

SAP ecosystem

GenLots

We integrate with existing Interfaces from SAP ECC, S4 HANA or any other ERP

INPUT (CLIENT ERP)

DEMAND SIGNAL

DepReq, IndReq, CusOrd, etc

+

FIXED / EXISTING PURCHASES FOR THAT MATERIAL

+

MATERIAL PARAMETERS

(MOST ARE OPTIONAL)

Cost factors: Transport, working capital, quality control, quantity discounts, etc.

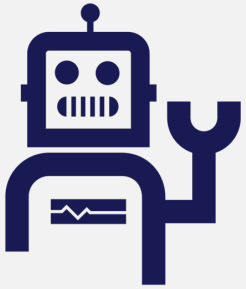
Safety: Coverage days, Safety stock & days, etc.

Any additional parameters: GR processing time, batches expiration dates, phase-in/phase-outs, etc.

Standard APIs

GenLots Order AI

SaaS in the cloud



Available on **SAP Store**

Industry cloud

Standard APIs

OUTPUT (CLIENT ERP)

OrderAI

PURCHASE REQUESTS

... and/or Planned Order, PO Items, etc.

+

OPTIONAL: OrderUI

GENLOTS USER INTERFACE

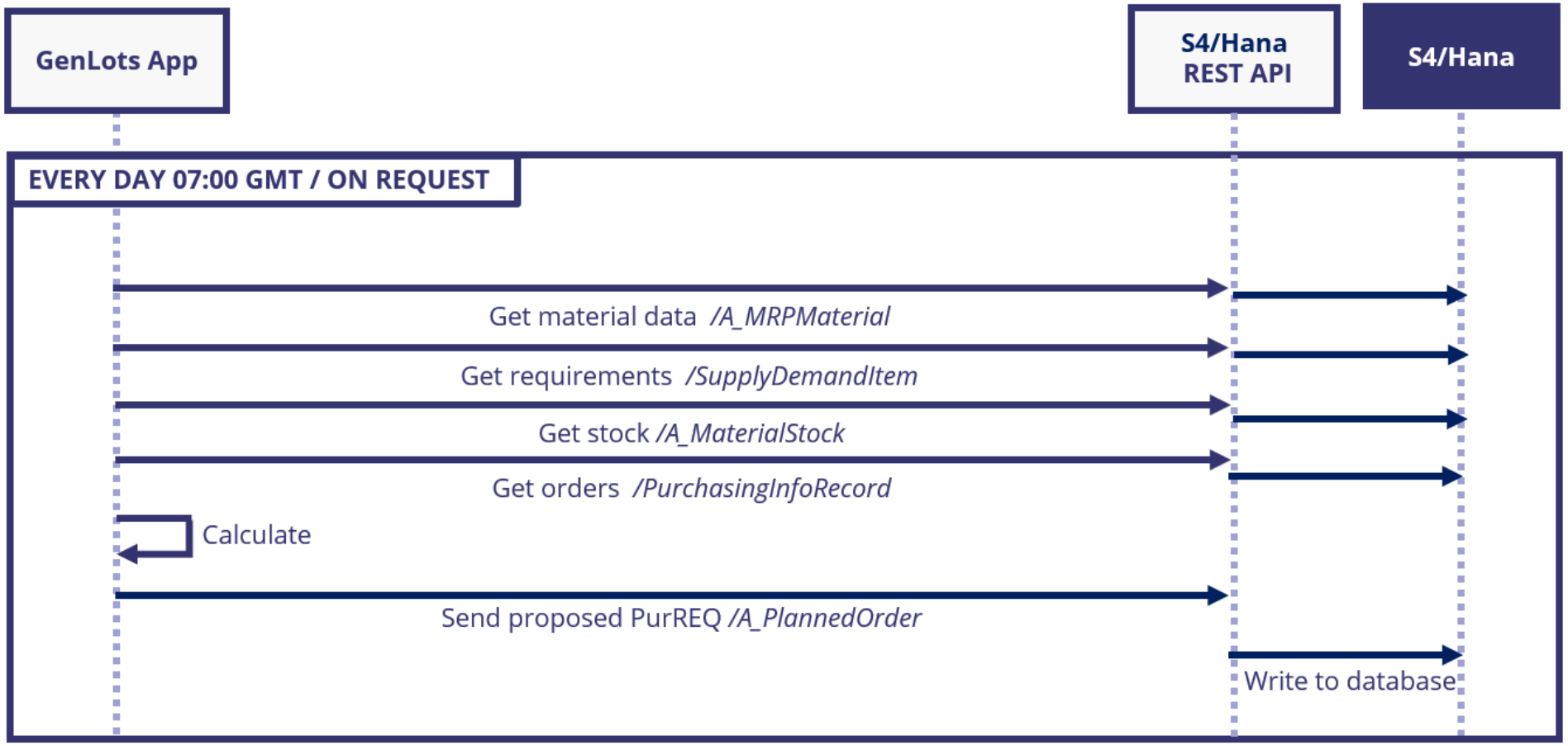
Graphs, cost awareness and simulations, future inventory in volume, reports

+

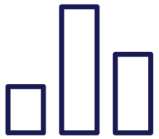
OPTIONAL: PolicyAdvisor

Assessing the impact of changes in inputs (like service levels, safety stock, rounding values, etc.) on the planning and on the costs

Example integration – sequence diagram



GenLots within SAP ecosystem: a value enabler for IBP and other upstream optimisation

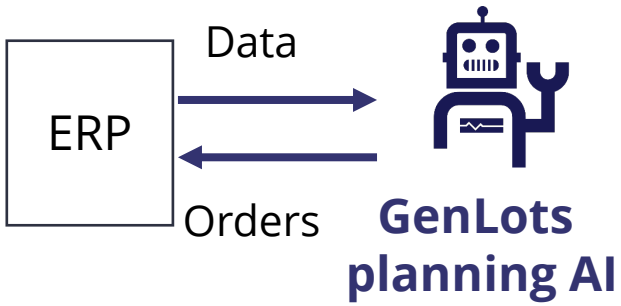
Task	 **Demand Planning**	 **Sales & Operations Planning (S&OP)**	 **Production**	 **Replenishment**	 **Logistics**	 **Inventory management**
Goal	Understanding future demand	Balancing sales and production activities	Planning and executing production	Computing material needs and purchasing patterns. **We refer here to **material flow** not finished goods*	Monitoring and executing transport of goods across various locations	Ensuring company has the right amount of goods to meet demand and minimize holding costs **We refer here to **finished goods inventory** ready to be shipped*
IBP modules	**IBP for Demand** Accurate forecasting	**IBP for S&OP** Cross company business plan	**IBP for Response & Supply** Synchronized demand and supply considering resource capacity	**IBP for Replenishment** Demand Driven MRP approach (pull) in which customer orders trigger material replenishment alternative: **Classic ERP MRP** Breakdown of production plans into future material needs (push)	**Supply chain control tower** Visibility throughout the network, also using other SAP functionalities	**IBP for inventory** Optimal inventory levels to satisfy customer service across all the network
GenLots	NA	GenLots provides optimal levels for procurement parameters, like scale prices, or safety stock for inbound materials	NA	**Operational purchasing** **GenLots computes optimal purchasing patterns once material needs are given with superior performance.** It complements the ERP and IBP, leveraging improved data quality.	GenLots reduces amount of transport required for a similar total output on a given production horizon	NA

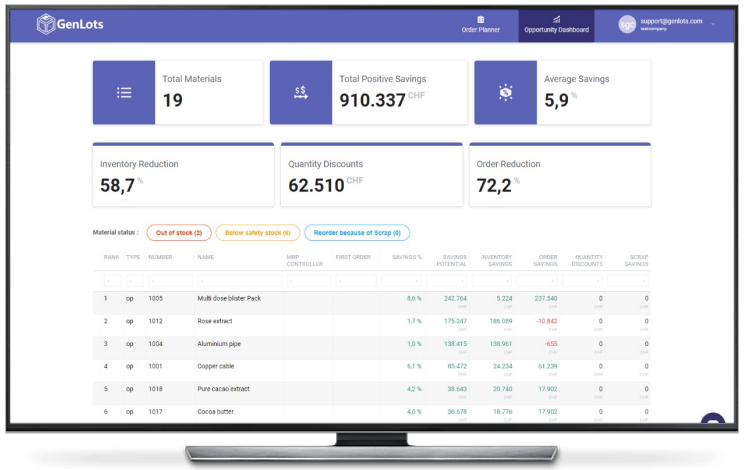
Our packages

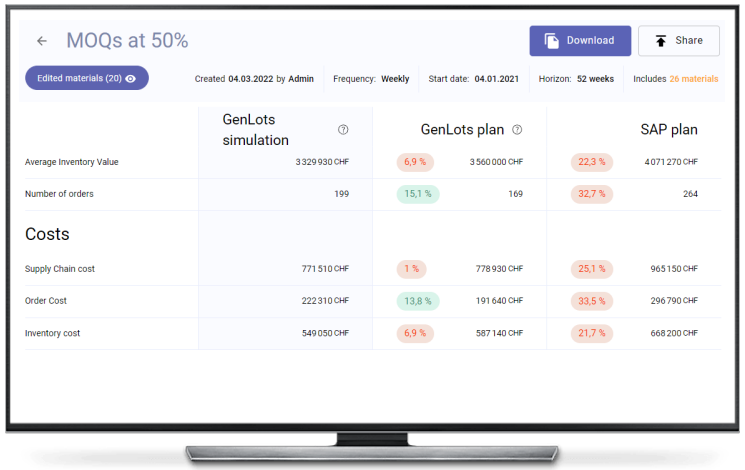
GenLots

Our packages

Available on **SAP Store**







GenLots Order AI

Replace ERP orders with optimized GenLots orders, automatically

+ GenLots Order UI

Make planning complexity easy and visualize scrap, inventory and service levels

+ GenLots Policy Advisor

Use the full potential available to reparametrize master data, safety stock, MOQs, quantity discounts…

GenLots

Investment after activation

Order AI	Order UI	Policy Advisor
• API calculating optimal order quantities • Approval of orders from within ERP with current process • Depending on material, they can be approved automatically	• Planner companion with graphical interface • Exception handling (scrap, phaseouts, etc.) • Inventory visualisation to handle constrained warehousing space • Individual simulations	• Safety Stock recommendations, optionally written back into ERP • Simulations on Procurement parameters (MOQ, Scale prices, Safety times) • Management by objectives (inventory vs. orders priority) • Custom automatizations possible
Per instance/BU/Factory • 50k below 5 million of inbound inventory • 75k 5-15 million inbound inventory • 120k above 15 million of inbound inventory • 200k above 100 million of inventory	40k/ BU/ year	• 40k/BU/year • + 20k for automatic write-back • Potential additional • Implementation work

**All prices CHF*

Discount card	
150,000	0%
200,000	5%
250,000	10%
300,000	15%
400,000	20%
500,000	25%

Example 1:

- 2 sites optimising 9 millions of inbound inventory each = 2 * 75K = 150 K for order AI
- 2* 40K = 80 K yearly for Order UI
- 2* 40K = 80 K yearly for Policy Advisor
- Total 310 K → 15% of discount applies
- 265 K yearly

Example 2:

1 site optimising 4 millions of inbound inventory with Order AI only: 50 K yearly

→ Expected 5 -10 X ROI based on existing implementations (slide 11)

2-slider for sharing

GenLots

GenLots

AI-Powered efficiency with Every Order

BRIEF

GenLots optimizes quantity and timing of material & component orders through its unique AI.

This reduces the total cost in the trade-off triangle between inventory, order costs and service level.

BUSINESS PROBLEM

Manufacturing companies face challenges in operational purchasing which is still relying on Excel macros, an MRP (Material Requirements Planning) from the 90ties and individual knowledge.

Current optimization algorithms (if used at all) are looking at quantities, not costs and look at annual averages, not live MRP data.

This results in unnecessary costs, excessive inventory, stockouts, and a lack of sustainability.

BENEFITS

ABInBev

20% less **inventory**

5% less **deliveries**

75% less **manual interventions**

MERCK

5% less **inventory**

47% less **deliveries**

20% lower spend in packaging through quantity discounts

- In daily **production** use since **2019.**
- **25 sites in Europe and the Americas.**
- Official **SAP partner.**
- **10 millions in annual cost savings for every 100 millions of Inventory.**

HIGH FINANCIAL IMPACT

Save automatically millions every year.

ZERO CHANGE MANAGEMENT

Optimize operational purchasing with our API, no user interaction required.

NOBODY DOES IT

Get it only with us. We are complementary to IBP, o9, Kinaxis, OMP etc.

GenLots

We integrate with existing Interfaces from SAP ECC, S4 HANA or any other ERP

INPUT (CLIENT ERP)

DEMAND SIGNAL

DepReq, IndReq, CusOrd, etc

+

FIXED / EXISTING PURCHASES FOR THAT MATERIAL

+

MATERIAL PARAMETERS

(MOST ARE OPTIONAL)

Cost factors: Transport, working capital, quality control, quantity discounts, etc.

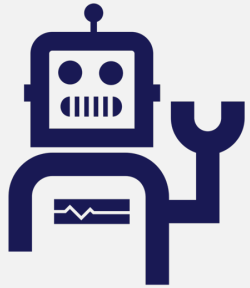
Safety: Coverage days, Safety stock & days, etc.

Any additional parameters: GR processing time, batches expiration dates, phase-in/phase-outs, etc.

Standard APIs

GenLots Order AI

SaaS in the cloud



Standard APIs

OUTPUT (CLIENT ERP)

PURCHASE REQUESTS

… and/or Planned Order, PO Items, etc.

+

OPTIONAL: OrderUI

GENLOTS USER INTERFACE

Graphs, cost awareness and simulations, future inventory in volume, reports

+

OPTIONAL: PolicyAdvisor

Assessing the impact of changes in inputs (like service levels, safety stock, rounding values, etc.) on the planning and on the costs

Implementation

GenLots: 3-10 days

Client: 3-10 days

Testing

1- 2 months

no commitment

Total testing phase

< 3 months

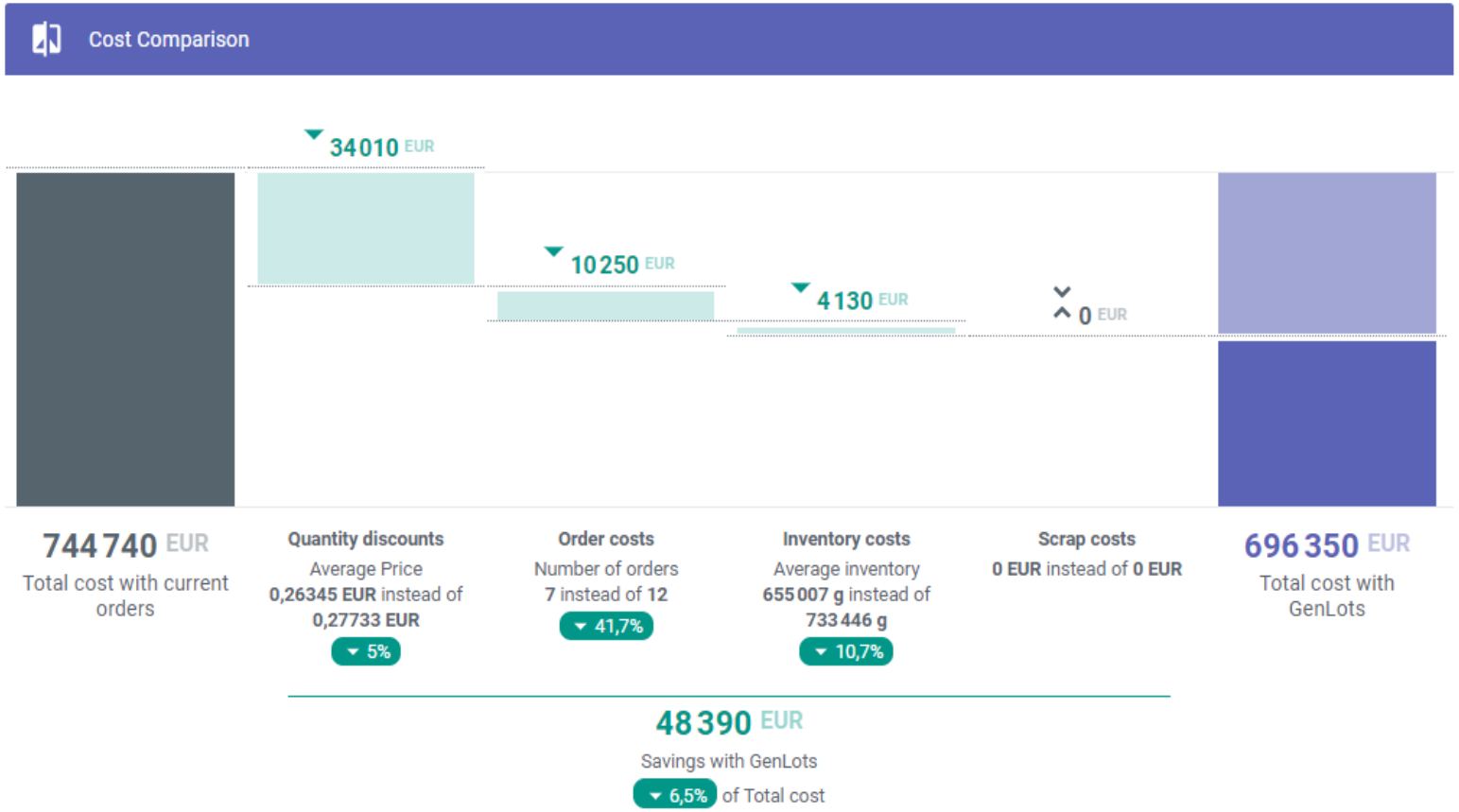
More about GenLots

GenLots

GenLots replaces Lot Sizing with Total Cost + AI

Total cost optimization across 5 factors with proprietary **reinforcement learning** (AI):

- **Acquisition cost** of the material (with scale prices if any)
- Cost of getting the material in the warehouse at each order (“**order cost**”)
- **Carrying cost**, i.e. cost of storage and cost of capital
- **Scrap cost**: material becomes obsolete
- **Risk** limitation: avoid stockout



- GenLots immediately answers the question: “how much does a particular **ordering strategy cost the company**?
- It is compatible with **MRP** or **DD MRP**, daily, weekly or monthly buckets
- **No use of historical data is needed**

MRP example

Parameters:

- Safety stock: 10
- Lead time: 1 week
- Lot sizing: 80

In the classic MRP process, a lot sizing procedure (EOQ,L4L, PPB) and corresponding lot size is used to orientate the size, frequency, and timing of the orders.
SLS allows to set this procedure with more accuracy through simulation.

MRP table:

Period	**1**	**2**	**3**
Gross Requirements:		160	320
Scheduled Receipts:			
On Hand : 60	60 I 60	60 I 10	60 I 10
Net Requirements		110	320
Planned Order Receipts		110	320
Planned Order Releases	110	320	

GenLots example

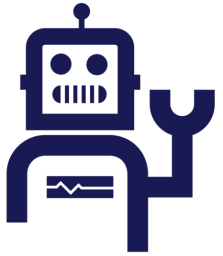
Parameters:

- Safety stock: 10
- Lead time: 1 week
- Any other applicable parameter….

GenLots uses gross requirements (consumptions forecasted for the horizon), so **still needs traditional MRP to run** in that regard, but then replaces all MRP elements linked to orders.

~~Lot sizing~~ ← No pre-set constraints on lots' size, frequency or timing.

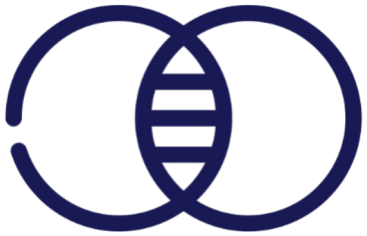
Period	**1**	**2**	**3**
Gross Requirements:		160	320



GenLots algorithm systematically minimizes Total Cost of Ownership by solving supply chain triangle

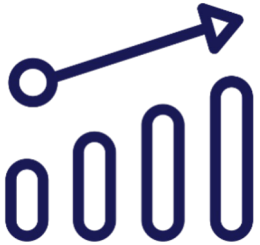
Optimized planned order		X	Y
Planned Order Releases	X	Y	

USP: where does the performance of GenLots' algorithm come from?



- Larger universe of solutions than traditional approaches like EOQs
- Isolates the absolute optimum in seconds

- Flexibility to add parameters
- Enables to closely model real-world constraints



- Data updated live
- Continuous optimization instead of periodic lot sizing

- Native total cost approach
- Not configured for inventory only

Procurement simulator:
projecting in real-time the financial impact of increasing supply resilience

← safety time +75%

Download | Share

Edited materials (1223) | Created 2022-07-19 by Admin | Frequency: Weekly | Start date: 2022-07-19 | Horizon: 65 weeks | Includes 1223 materials

	GenLots simulation		GenLots plan		SAP plan
Average Inventory Value	4 681 940 EUR	11,7 %	4 133 000 EUR	64 %	1 684 370 EUR
Number of orders	1393	0,9 %	1380	134,8 %	3271
Costs					
Supply Chain cost	748 400 EUR	6,9 %	696 950 EUR	23,3 %	922 840 EUR
Order Cost	308 580 EUR	1,1 %	305 160 EUR	141,5 %	745 310 EUR
Inventory cost	409 670 EUR	11,7 %	361 640 EUR	64 %	147 380 EUR
Scrap cost	30 150 EUR	0 %	30 150 EUR	0 %	30 150 EUR
Purchasing cost	13 674 460 EUR	1,2 %	13 507 350 EUR	29,3 %	17 685 530 EUR

Operational procurement simulator: testing and improving master data for additional savings

MOQs at 50%

Download | Share

Edited materials (20) | Created **04.03.2022** by **Admin** | Frequency: **Weekly** | Start date: **04.01.2021** | Horizon: **52 weeks** | Includes 26 materials

	GenLots simulation		GenLots plan		SAP plan
Average Inventory Value	3 329 930 CHF	6,9 %	3 560 000 CHF	22,3 %	4 071 270 CHF
Number of orders	199	15,1 %	169	32,7 %	264
Costs					
Supply Chain cost	771 510 CHF	1 %	778 930 CHF	25,1 %	965 150 CHF
Order Cost	222 310 CHF	13,8 %	191 640 CHF	33,5 %	296 790 CHF
Inventory cost	549 050 CHF	6,9 %	587 140 CHF	21,7 %	668 200 CHF
Scrap cost	160 CHF		160 CHF		160 CHF
Purchasing cost	17 187 380 CHF	0 %	17 180 380 CHF	11,6 %	19 181 510 CHF