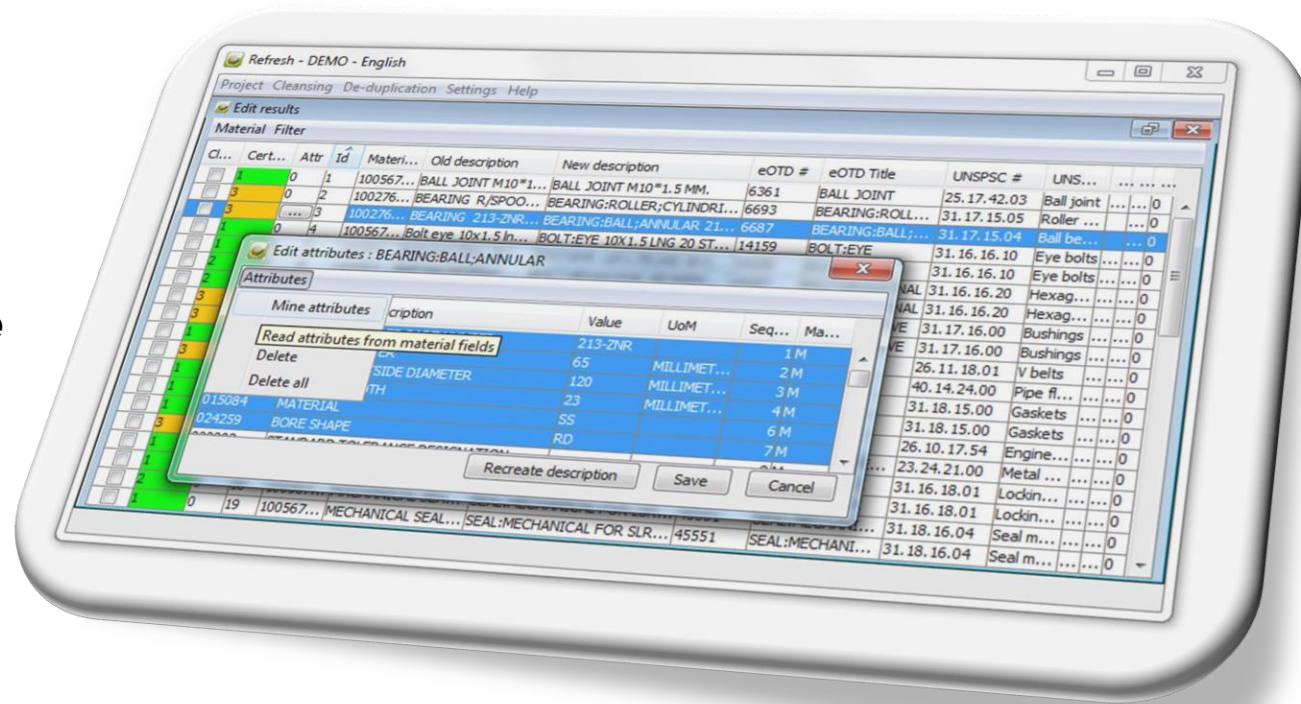# Refresh™

*Machine Learning
AI Data Standardization
Software for the Enterprise*
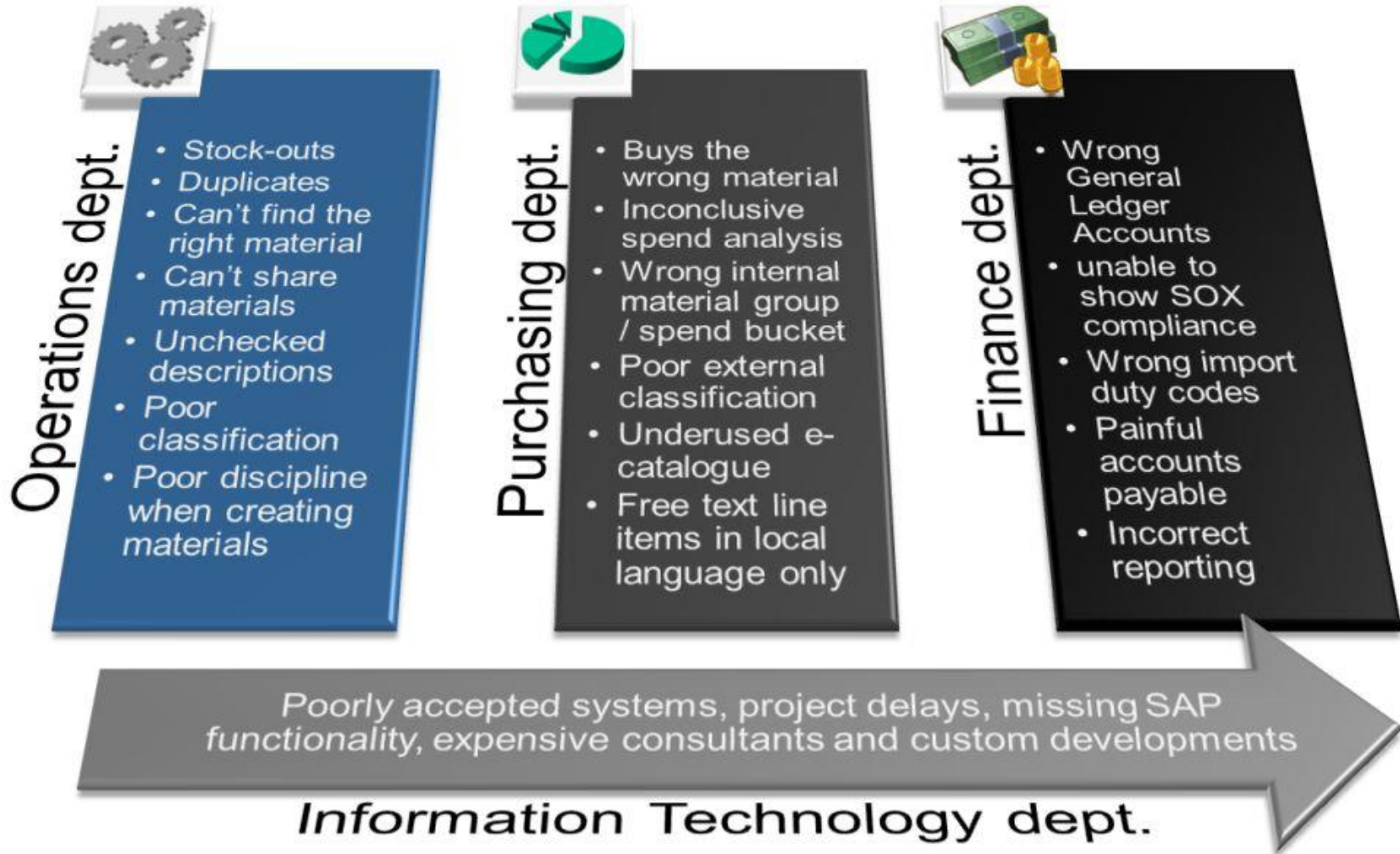

An example application:
Refreshing SAP® Material Masters
For S/4HANA upgrades & general SAP data cleansing

Refresh™
YOUR DATA MASTERED

Refresh™ is the leading AI material master auto-standardizer

50+Million items classified at our top 10 customers

▼ Refresh Installations at large* customers
(*at least 1Billion USD in Revenue)

Campbell's
GLENCORE
Coca-Cola
Government Canada
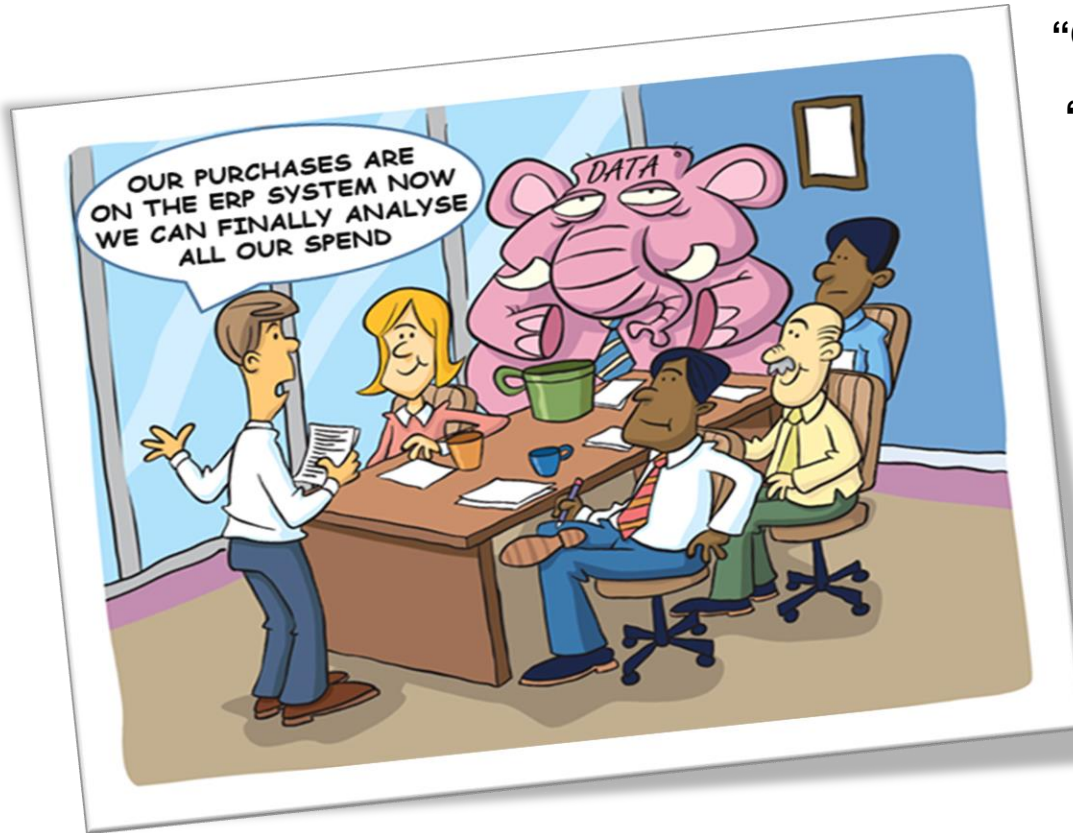DOW
Continental
RioTinto
UNIVERSITY OF OXFORD
ExxonMobil

Our customers successfully cleansed, classified & governed millions of spare parts, products and services last year

Do you have these **toxic data** symptoms in your company?

Operations dept.
- Stock-outs
- Duplicates
- Can't find the right material
- Can't share materials
- Unchecked descriptions
- Poor classification
- Poor discipline when creating materials

Purchasing dept.
- Buys the wrong material
- Inconclusive spend analysis
- Wrong internal material group / spend bucket
- Poor external classification
- Underused e-catalogue
- Free text line items in local language only

Finance dept.
- Wrong General Ledger Accounts
- unable to show SOX compliance
- Wrong import duty codes
- Painful accounts payable
- Incorrect reporting

Poorly accepted systems, project delays, missing SAP functionality, expensive consultants and custom developments

Information Technology dept.

Do your Purchasers mention any of these problems?...

"Our Indirect material spend is a "*black hole*""

"How do we get away from all
this free-format text purchasing?"

"Our Company still purchases MRO by unformatted
freeform text and only in one local language"

"We're struggling with Purchasing Automation"

"Why is the supplier name so often
in the material description?..."

"Surely this item could be
on an e-catalogue?..."

"It's difficult to analyze spend on services"

"There are literally thousands of parts and services, poorly described and not
on maintenance bills of materials with well-maintained Purchasing Information Records"

"Why are items purchased as free text when they're already catalogued… or even worse - in stock"

Do your Engineers mention any of these problems?...

"Why can't I list all the similar parts together?..."

"Describe it in only 40 characters??"

"Why can't it be easy - like Google?"

"I can't find my material..."

"I could find it if it was on the BOM..."

"The vendor sent the wrong thing…"

"Do I have duplicates?..."

"Purchasing bought the wrong #@§* thing again..."

"This description looks like Greek to me... hmmmm... maybe it is Greek"

"If I have production downtime due to missing parts once more..."

Do your Accountants mention any of these problems?...
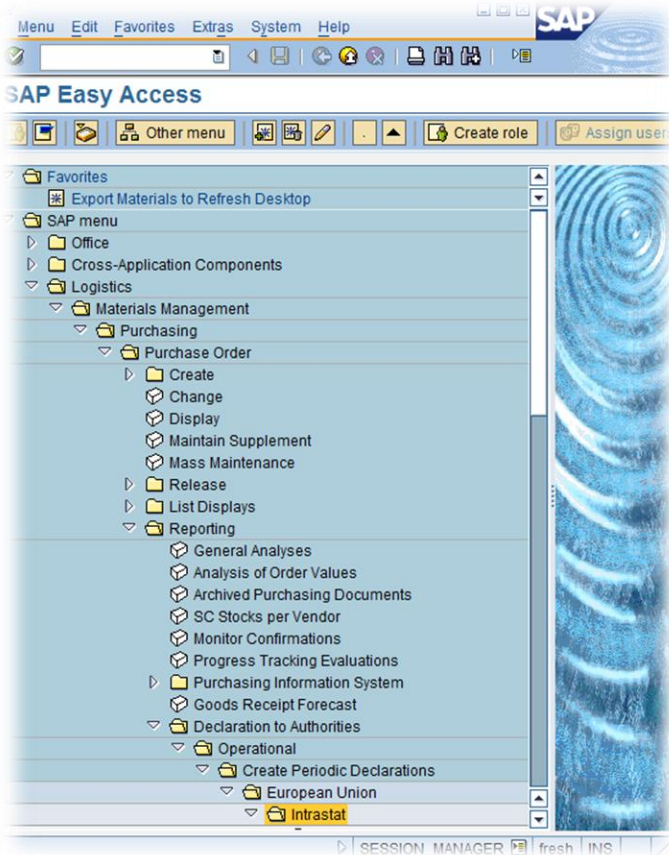
"TARIFFS! Did we comply with all the import/export duties... are the base commodity HTS codes correct?"

"TAX Codes are sometimes a guess"

"What is the UNSPSC code?"

**"We can't always prove compliance...
Especially internal control of financial reporting"**

"The requisitioner in the factory chose the wrong account again – seems they are just choosing the top one in the list"

"Our Accounts Payable process has too much rework and financial shared services hasn't helped much"

"Intrastat, HS and VAT returns are a nightmare and it takes ages to close these books"

"I can't match the purchase order to the invoice – these vendors won't be paid..."

"SOX 404 - tells me to identify points at which a misstatement could occur – but many of our material masters and purchase requisitions could potentially cause misstatements"

Do your IT Professionals mention any of these problems?...
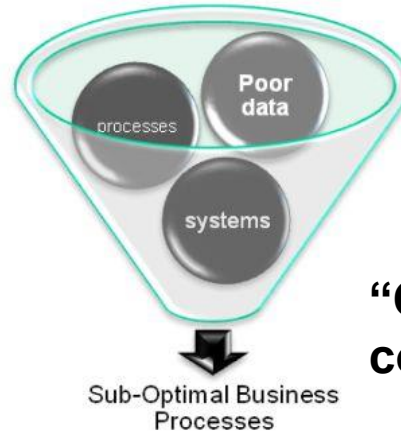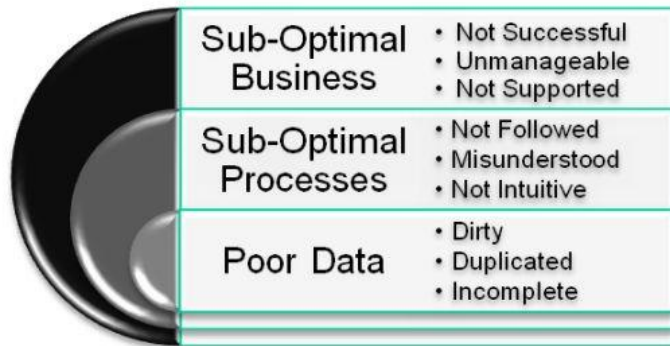
"Our users are sometimes frustrated"

"MDM has not really helped us and SAP MDG isn't as data-automated"

"Other tools in the market don't complement SAP's offering"

"How many legacy materials did you say we have to clean?"

"I am not sure of the quality, or the business ownership afterwards if we outsource the actual data cleansing"

"I don't want to look after any more interfaces – even if they swear they are certified!"

"9 months+ for data cleansing? ... My project is never going to go-live"

"I just need 50 000 UNSPSC codes… fast"
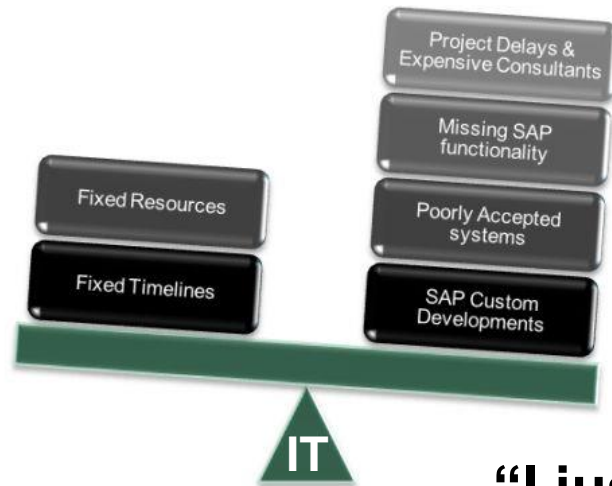
Wouldn't you like *an easy way* to "refresh" ALL your dirty material masters?

Gartner

"SAP is behind some of the competition in data quality, data profiling and associated reporting facilities, which are important in complex product data environments that are heterogeneous in nature. Many customers report having to refer to other tools in this area as part of their implementations. The acquisition of Business Objects enables SAP potentially to leverage some of the data services related to profiling and data quality, but even Business Objects' experience was generally associated with customer data and not product data" *Gartner*.

"For an engineer to consider incorporating a standard part in a new design, the engineer must first know that it exists and be able to find it. 27% of total time is routinely spent looking through databases and in-house libraries...18% of total time is devoted to reentering and re-creating part information that already exists but can't easily be found."

"Data visibility is the major challenge for the majority of programs despite the significant progress of e-sourcing and e-procurement." *Aberdeen Group*.

Refresh makes it quick and easy to cleanse, classify and govern large databases of products

Refresh™ can help you… right out of the box…

Out Of The Box: Repeatable material master descriptions

Old description	New description
AC MOTOR SIEMENS …	MOTOR:ALTERNA
BUTTERFLY VALVE 10…	VALVE:BUTTERFLY
HELICAL GR UNIT K 3…	GEAR:HELICAL UNI
CONV BELT UNIROYA…	BELT:CONVEYOR U
BEARING FL 135 DRW…	BEARING:ROLLER
BEARING FL 110 DRW…	BEARING:ROLLE
CARRYING IDLER DIA…	IDLER:CONVE
TURN IDLER DIAM….	IDLER:CON
AL GR UNIT K 3…	GEAR

AI-Powered Algorithmic Master Data Standardization – A *fresh* new approach to this old problem

Out Of The Box: Automatic material classification & compliance

ISO · unspsc · INTRASTAT · ECCMA · eCl@ss

06400100	Toothed gearing	
tributes	eOTD 6504	
Title English	GEAR:HELICAL	
Title Dutch	TANDWIEL:SCHUIN	
Title French	ROUE D'ENGRENAGE:CYL	
Title German	ZAHNRAD:STIRN-:SCHRA	

ear, cylindrical in form, h teeth on the outer face at an angle to the

| PSC | 31.17.17.14 | Helical gears |
| 8483.40.90 | | Gears and |

Includes:
UNSPSC
ISO 8000
ECCMA
NATO
ECLASS
INTRASTAT
Harmonized System
… and many other excellent standards

Out Of The Box: Automatic spend classification & spend analysis

UNSPSC #	UNSPSC Title
26.10.16.02	Alternating current AC m
40.14.16.00	Valves
31.17.17.14	Helical gears
24.10.17.15	Conveyor belting
31.17.15.05	Roller bearings
31.17.15.05	Roller bearings
4.10.17.17	Conveyor idlers
10.17.17	Conveyor idlers
14	Helical gea

Out Of The Box: Standard SAP - No custom development needed

Standard SAP fields, ABAP's, API's, Workflows, SAP LSMW maps, …

SAP

Out Of The Box: Automatic material master de-duplication

rtainty	Duplicate	New description
3	12	MOTOR:ALTERNATIN
2	10	MOTOR:ALTERNATIN
3	7	BEARING:ROLLER;CY
	4	BELT:CONVEYOR UN
	2	BEARING:ROLLER:
	2	IDLER:CONVEYO
	2	IDLER:CONV
		VALVE:B

Just like Refresh™ helps these customers today:

Refresh AI Software algorithms predict the right classification & description data

With algorithms built over a decade, classifying and de-duplicating millions of real customer examples

This is real-world automation that simply works from day 1

Refresh™ gives you perfect material data fast, (SAP example)

Good, repeatable, noun-modifier standard compliant structured short text – multilingual, accurate & commercially neutral

Structured long texts auto-generated in all languages

Optimized PO text including attributes and part numbers

Correct Account Assignment

Verified Spend Classes – Both Internal & External including UNSPSC & Material Groups

Correct Commodity Codes/Intrastat/HS & PRODCOM codes

Automatic Technical Class & Better BOM Assignment

Reduced Obsoletes, Reduced Duplicates, and Optimized Stock Levels & equivalent parts

Automated & Complete Technical Characteristics, Values and ERP UoM's. Can be used to generate standard long & short texts in materials and purchasing inforecords per vendor

Always find your similar parts in ERP whether its through the standard transactions or…

… a Fresh Enhanced Material Search Help. This can be found on any ERP screen including PM Order, Purchase Requisition, Purchase Order, Goods Receipt, Invoice Verification, across the entire process. Your users can finally search on part numbers and long text attributes in any sequence.

Automatically in multiple languages where necessary,

Refresh is live today at customers with complex language requirements – Global businesses with multiple simultaneous texts.

Our software and dictionaries are truly multilingual; bringing local ease of use and head-office visibility. No matter which original language.

…and keeps it clean with *Rich Master Data Governance*

Refresh Server Screenshot

Refresh Server acts with SAP as a "helpful policeman" at the point of data entry. SAP is the Master Storage System. While Clients are free to use the Refresh Algorithms & content as-is, it is deployed as an ABAP Web Dynpro Form & Workflow which can be customized as per SAP standards. Refresh gives *Rich MDG* assistance to the requestor during the material creation process, holding helpful rules for SAP master data creation: auto-correcting, proposing, validating and safeguarding the data at each touch by the business end-user. **It's like having a live electronic data standard at point of entry**.

Pre-built workflows will accelerate your data governance project and Refresh's real time auditing and duplicate checks will help the material requestor by proposing alternatives & content to **get it right first time**. The automatic duplicate check and approval workflow make sure that errors are avoided.

The ISO aligned standard dictionary and templates generate short descriptions, longer basic data texts and PO texts using industry pro naming standards. The templates can be uploaded into the classification view of the material or the long texts or both, enhancing your future SAP searches. Refresh Server **supports SAP ECC6, MDG and S/4 Hana.**

Isn't it time you "Refreshed" your data?

Engineering
- Can find the right material
- Gets the right material on time
- Optimizes stock levels
- Auto-checked material description & classification when a new one is created

Purchasing
- Buys the right material
- At best price performance
- With correct internal material group / spend bucket
- With correct external classification

Finance
- Reports the purchase in the correct account
- Is able to report key compliance data e.g. import duty codes
- Easy accounts payable

Refresh™ automates the right data across the entire business process at lowest total cost of ownership

Refresh is being used today in leading multinational companies to dramatically reduce the man-hours needed to achieve and maintain **perfect SAP material master data.**

Business benefits from a typical project:

- Less unnecessary stock
- Reduced working capital
- Easier searching for items
- Less false stock-outs & Reduced maverick buying
- Leveraged plant commonality - sharing of big-ticket items
- Reduced Dormant or Obsolete Inventory
- Increased process and financial compliance
- Increased Customer Satisfaction
- Less rework / error correcting
- Easier stock level optimization
- More trustworthy Spend Analysis
- Increased Safety & Environmental Performance
- Easier goods receipt and accounts payable processes
- Increased procurement visibility for supplier consolidation
- Data ownership and sharing enhances ongoing data quality

KPI	Potential Savings	Typical Savings
Inventory cost reduction	5-15%	8%
Procurement cost reduction	2-10%	5%
Equipment downtime reduction	2-5%	3%
Supply chain & storage cost reduction	8-12%	10%
Increased procurement & engineering worker productivity	8-20%	15%
Reduced Accounting Compliance Risk	2-5%	3%

Savings (de-dupe only) at some of our customers:

| Refresh Software Customer	System mined	Sites in scope year 1	Unique items	Ave. Price	Dupli-cates	Top 3 Dupe item types found	Number of purchases avoided	Dollar savings year 1	Top 3 Algorithms used #	Codename
Large Group of Hospitals, Canada	SAP	10 in N. America	43163	$241.51	3.04%	Catheters, tubes Ophthalmic lenses	24549	$ 5,928,926	β γ ε	Beta, Gamma, Epsilon
World's Largest Mining Company	SAP	14 in Asia Pacific	79890	$ 68.51	4.15%	Cables, Filters, Seals	37637	$ 2,578,483	ξ δ γ	Xi, Delta, Gamma
National Ports Authority	Various	4 in Europe	95030	$ 85.20	4.00%	Safety Equip, Switch, Hydraulics	18284	$ 1,557,777	γ δ o	Gamma, Delta, Omicron
Govt. Owned Electricity Utility	SAP	6 in N. America	176882	$ 89.45	5.53%	Construction Steel, Office Items, Seals	45966	$ 4,111,659	δ ζ γ	Delta, Zeta, Gamma
Global Top 10 Automotive Co.	SAP, IBM	4 in N. America	146128	$ 67.76	5.26%	Bushings, Bearings, Seals	41626	$ 2,820,551	δ γ ε	Delta, Gamma, Epsilon
Large Group of Hospitals, USA	Infor	5 in N. America	68704	$220.43	3.15%	Implants, Bone Screws, Catheters	8678	$ 1,912,968	β δ ξ	Beta, Delta, Xi
World's Largest Chemical Co.	SAP, Microsoft	25 in N. America	291233	$121.21	4.12%	Valves, Pipes, Pumps	57594	$ 6,980,998	β ε η	Beta, Epsilon, Eta
Govt. Owned National Oil co.	SAP	2 in Africa	63477	$ 56.84	7.35%	Pipes, Switch, Refractories	24360	$ 1,384,622	ι ε β	Iota, Epsilon, Beta
Fortune 500 Groceries Co.	Various	10 in N. America	93411	$ 91.58	4.08%	Bearings, Motors, Seals	18540	$ 1,697,901	γ δ β	Gamma, Delta, Beta
Global Top 3 Chemical Co.	SAP	6 in S. America	127102	$ 53.61	3.42%	Valves, Seals, Repair kits	31828	$ 1,706,276	β η ε	Beta, Eta, Epsilon
Global Top 10 Petrochemical Co	Oracle	1 in Mid East	91300	$252.43	7.27%	Gauges, Bearings, Seals	18313	$ 4,622,650	β η ε	Beta, Eta, Epsilon
Global Top 10 Aluminium Co.	Various	1 in Mid East	86256	$212.53	7.16%	Office Supplies, Motors, Safety	16992	$ 3,611,363	γ θ η	Gamma, Theta, Eta
Global Top 3 Steel Co.	SAP, IBM	4 in Europe	57824	$ 89.01	4.26%	Switch, Hydraulics, Pneumatics	33760	$ 3,004,937	ξ o δ	Xi, Omicron, Delta
Well Known Global Food Co.	SAP	11 in N. America	88536	$126.34	3.62%	Bearings, Switches, Belts	18911	$ 2,389,170	γ δ ζ	Gamma, Delta, Zeta
Global Top 3 Meatpacker	SAP	12 in N. America	100332	$ 91.58	3.97%	Conveyor parts, Valves, Gaskets	18536	$ 1,697,547	γ δ β	Gamma, Delta, Beta

Buying less & de-duplicating also means less emissions.
Last year's total CO_2 saved by Refresh's Top 10 users equalled:
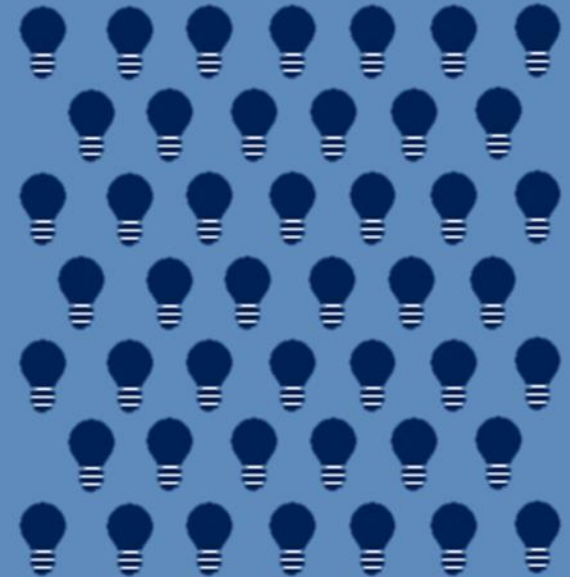

29360 flights
(London to New York)
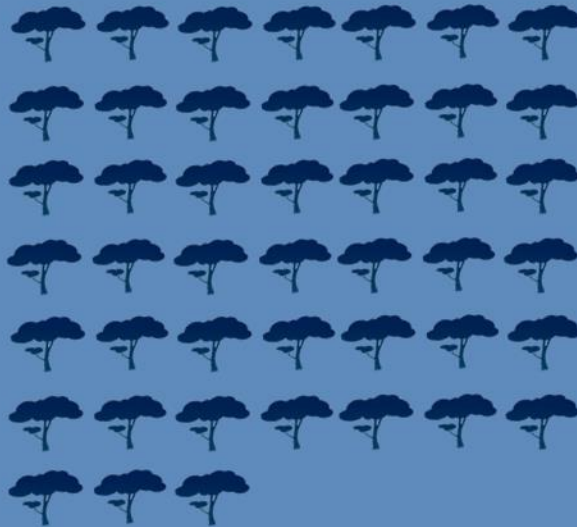
451690 trees
(that's 22 Central Parks)

461160 lightbulbs
(that's 115 Hollywood Signs)

Real, practical environmental savings on top of cost reduction

Available today. Installed in an hour. 1ˢᵗ Results in a week.

50+Million items classified at our top 10 customers

▼ Refresh Installations at large* customers
(*at least 1 Billion USD in Revenue)

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accounts<at>freshinternational.com

Contact us for a free live demo.