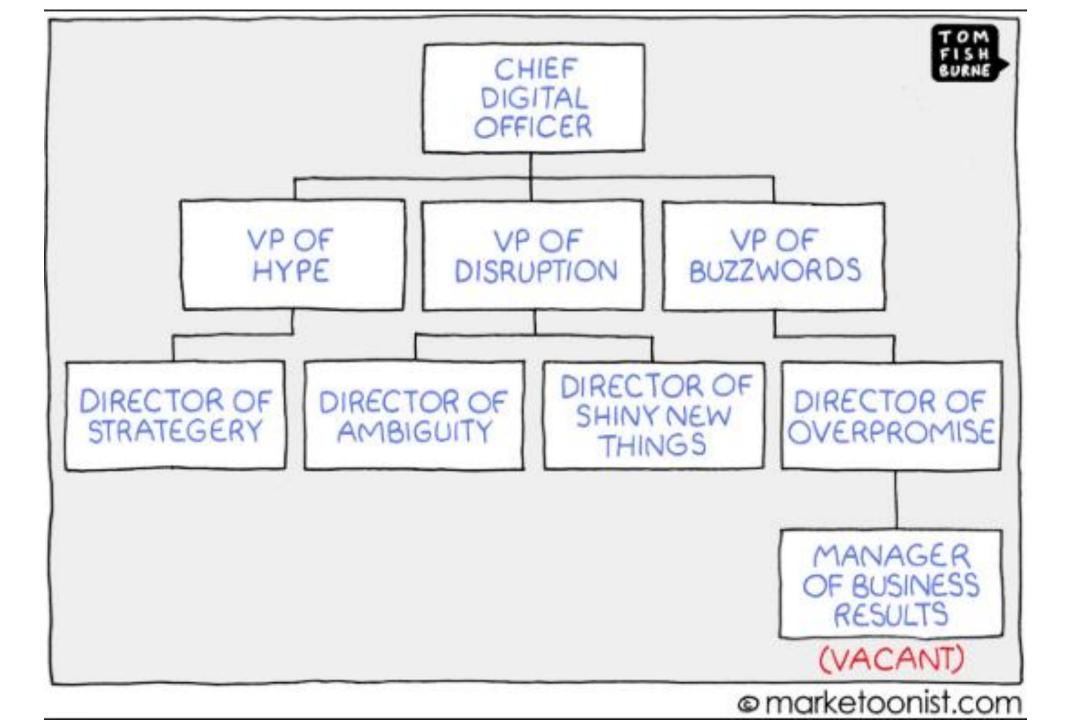
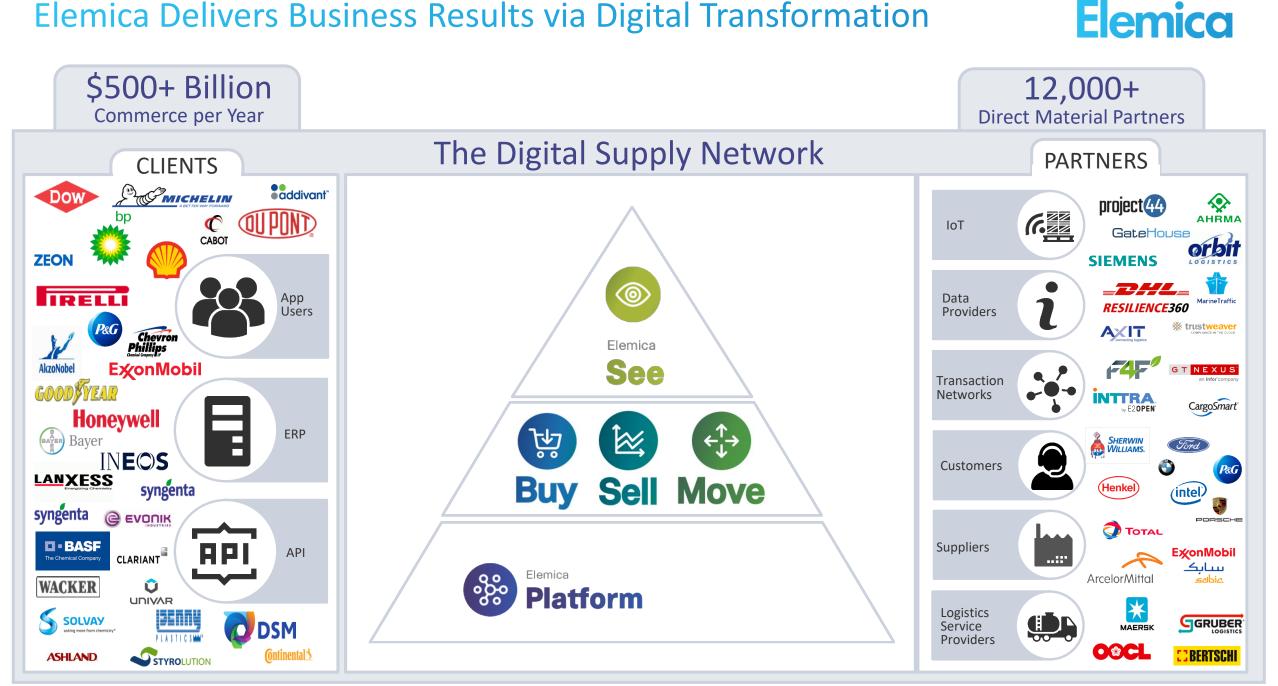
# Cutting Through the Acronym Noise to Understand Digital Transformation



### **Elemica Delivers Business Results via Digital Transformation**



# **Elemica Digital Transformation Solutions**





### Elemica Buy

Onboard your raw material suppliers to optimize your procure-to-pay process, reducing inventory levels and increasing productivity

Products:

- Purchase Order Management
- Quicklink Email P2P
- Vendor Managed Inventory
- Delivery Forecast
- Invoice Compliance



#### Quality

Improve quality and simplify compliance. Create information from COAs to drive decisions and improve processes.

#### Products:

- e-COA<sup>®</sup> Management
- Finished Goods Traceability
- Test Results and Graphics
- Pre-ship authorization
- Regulatory Reporting



#### Elemica Sell

Automate your complete order-to-cash process to reduce operating expenses, optimize working capital, and improve sales performance

#### Products:

- ENRICH
- Sales Order Management
- Customer Portal Assistant
- Quicklink Email SELL
  - OCR Module
- VMI & Delivery Schedule
- Invoice Compliance



### Elemica **Move**

Collaborate with all of your logistics service providers to reduce freight costs, improve productivity and maintain shipper-of-choice status.

#### Products:

- Transport Execution
- Quicklink Email Move
- Freight Cost Management
- Terminal & Warehouse Visibility
- Timeslot Management

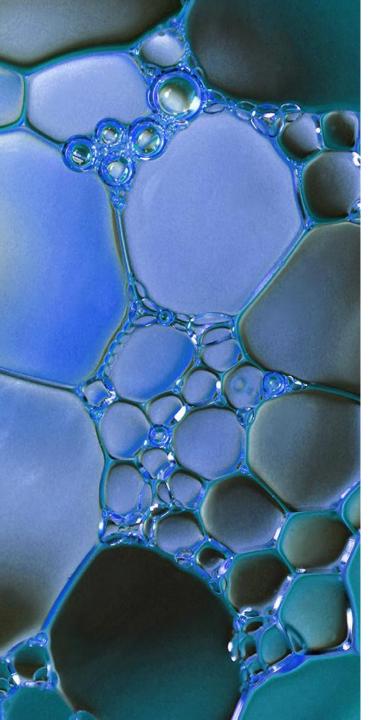


Elemica **See** 

Unleash the power of a digital supply chain with visibility and exception management of your order-to-cash and procure-to-pay processes.

#### Products:

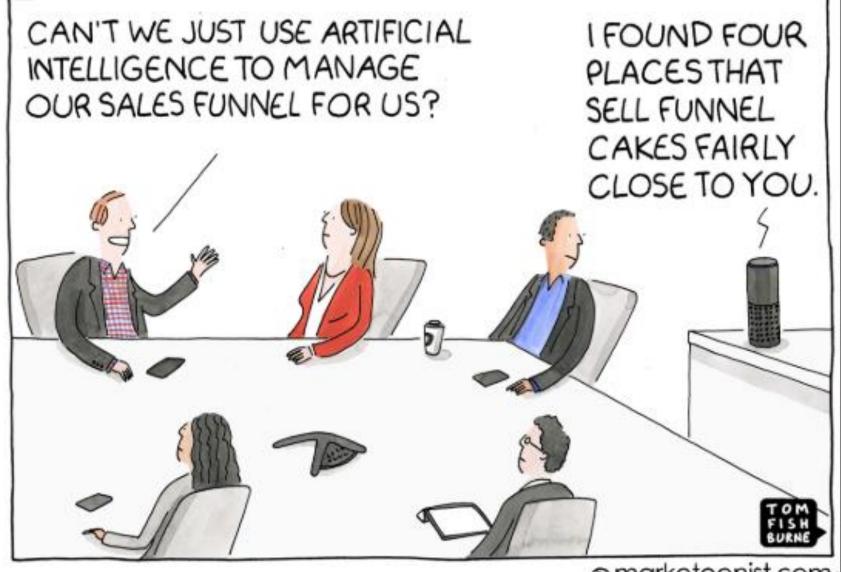
- Pulse
- Trace
- Risk



### Agenda

- Hype? Reality?
- Acronyms and Buzzwords
- Results Driven Digital Transformation
- Q&A

# **Artificial Intelligence (AI)**



© marketoonist.com

### **OTIF Predictions using Machine Learning** AI for Business Results



		 -	10	
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 FREQUENCY
 WEIGHTED
 REGRESSION

 TABLES
 PROBABILITY
 MODEL

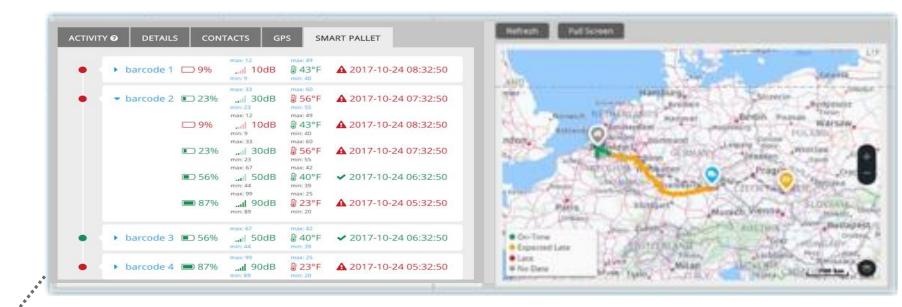
Independent historical shipment variables tied to known outcomes

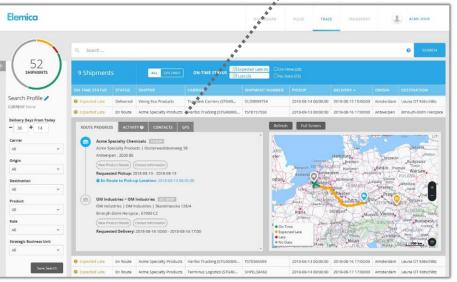
PRODUCT CODE	
SHIP FROM CODE	
SHIP TO CODE	
CARRIER SCAC	
EQUIP TYPE	
WEEK # OF ARRIVAL	
DAY OF WEEK	
PICK UP VARIANCE	



### **Real Time Order Visibility**



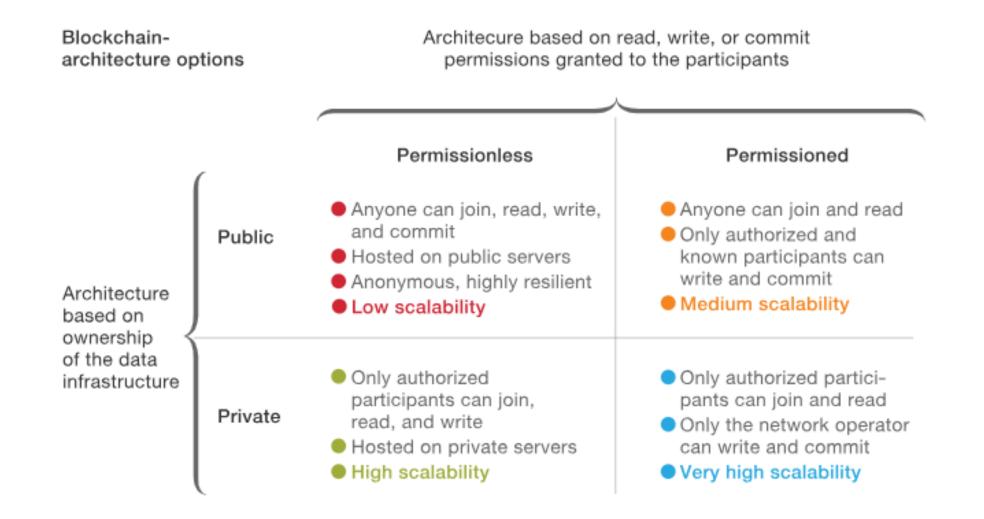




#### **Features**

- ✓ Smart pallet tracking
- ✓ Predictive ETAs
- ✓ GPS (IoT) Tracking
- ✓ Batch traceability

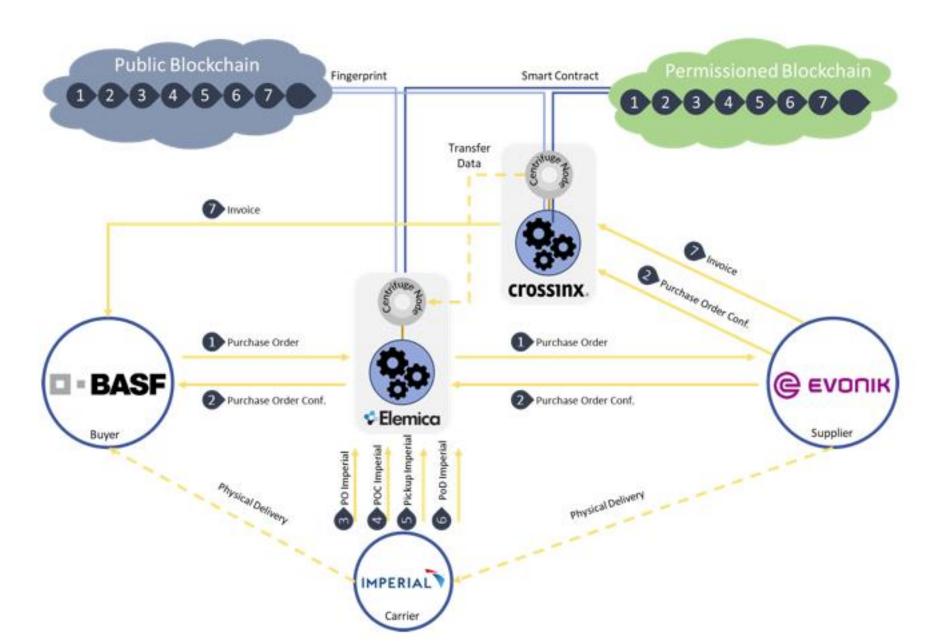
### **Blockchain**



McKinsey&Company

### Elemica Blockchain Pilot

### **Elemica**

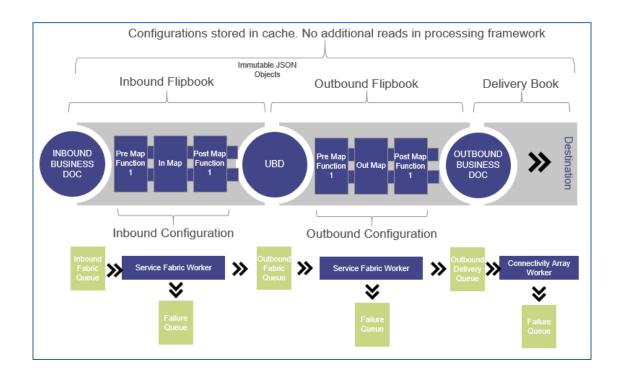


## **Blockchain Pilot Objectives**



- Feasibility of employing a trustless, intermediary-free, decentralized standard to exchange information between different stakeholders
- Simplify existing business processes and make them smarter
  - Auto-matching of invoices
  - Auto-payments
  - Auto-ordering based on IoT information
  - Automated PO confirmations
  - Auto-invoice creation based on Pickup or PoD
- Extend to other complementary decentralized networks
  - Integrate information from IoT devices

### Elemica is Like a Permissioned Private Blockchain With OTC Business Functionality



### **Blockchain Security**

Elemica

**Platform** 

စီဝိုစ

- ✓ Secure and auditable
- ✓ Permissioned data read / write
- ✓ Managed access

### **Supply Chain Features**

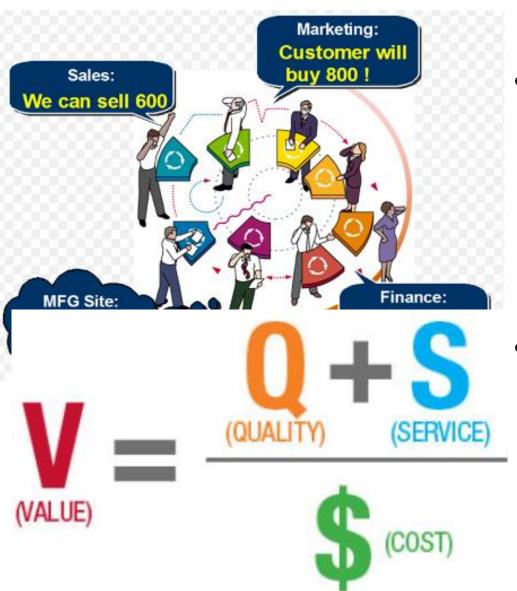
- ✓ Order to cash
  - ✓ Adapts to your customer ordering process
  - ✓ Full traceability and visibility
- ✓ Business process flexibility:
  - ✓ Discrete and process manufacturing
  - $\checkmark\,$  Quality and batch control
  - ✓ ECEMA and FDA requirements

Currently faster than using tradition blockchain technology. Much cheaper. Has customer service and supply chain functions.

# **Acronyms and Buzz Words**

### **Business Acronyms**

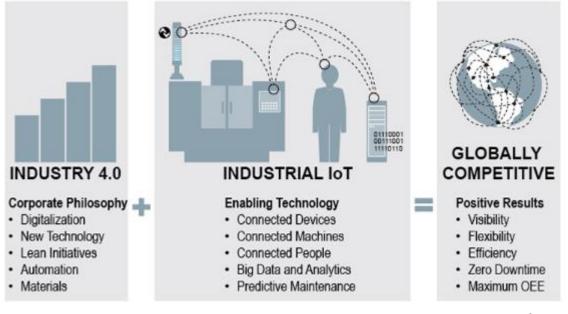




• S&OP – sales and operations planning

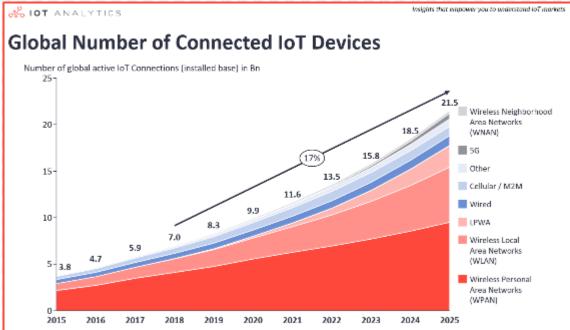
- ROI, IRR, NPV, EBITDA ways to express profit
  - **Return on investment.** Savings from a project divided by the cost of the project.
  - Internal rate of return. Another way to express ROI.
  - Net present value. Another way to express ROI.
  - Earnings before interest, tax, depreciation, & amortization.

### **Internet of Things (IOT)** Component of Digital Transformation



Automation Insights





Non-bit Connections do not include any computers, long phones, cellphones or tables, Course da era price node/davkes or ganzaves that concentrate the and sensors, not every sensor/actuators. Simple onedimeticanal communications includes processors and erap and and includes and includes and erap an

### System connectivity





Different types of speaker wire

- *API application programming interface*
- AS2 Applicability standard 2
- AS4 Applicability standard 4
- Digital certificate –secures transmissions and identifies partners
  - These tend to be issued by 'Certifying Authorities" like Versign
  - Block chain is a digital certificate on steroids without a Certifying Authority
- FTP file transfer protocol
- FTPs & sFTP FTPsecure & secureFTP
- HTTP Hyper Text Transfer Protocol
- HTTPS Hyper Text Transfer Protocol Secure
- SSL secure sockets layer. Technology to secure transmissions
- *TLS transport layer security*
- Web service

#### Ways to get data from one place to another reliably and securely.

### EDI, IDOCs, XML

<7xml version="1.0"?>

<IDOC BEGIN="1">

< (IDOCTYP)

- <EDI\_DC40\_SEGMENT="1">

<MANDT>200</MANDT>

<STATU5>03</STATU5>

<DIRECT>1</DIRECT> <OUTMOD>2</OUTMOD>

<DOCREL>752</DOCREL>

<TABNAM>EDI DC40</TABNAM>

<DOCNUM>000000000000037</DOCNUM>

<COND\_A04>



- EDI electronic data interchange. Some examples:
  - X12 North American ANSI EDI standard
    - X12 3060 850 = purchase order (version 3060)
    - X12 4010 856 = ship notice (version 4010)
  - EDIFACT EU EDI standard
    - UN/EDIFACT D96A ORDERS = purchase order (version 96a)
    - UN/EDIFACT D96A DESADV = ship notice (version 96b)
  - Others: EANCOM, HIPAA, ODETTE, SWIFT, Tradacoms, VDA, VICS, etc.
- Flat File
- *IDOC format SAP uses to transmit data* 
  - ORDER a purchase order
  - SHPMNT ship notices
- XML a more modern form of EDI
  - Examples on next page...

#### Data formats, or languages, programmers and systems can read.

### XML Examples



- Hindi under Hindi
- AgGateway SPADE
- CIDX (Chemical Industry Data Exchange)
- GUSI (Global Upstream Supplier Initiative)
- IDOC (SAP IDOC without tags)
- IDOC XML (SAP IDOC with tags)
- ISOXML (International Organization for Standardization)
- PIDX (Petroleum Industry Data Exchange)
- PEPPOL (Pan European Public Procurement On-line)
- ... many, many more

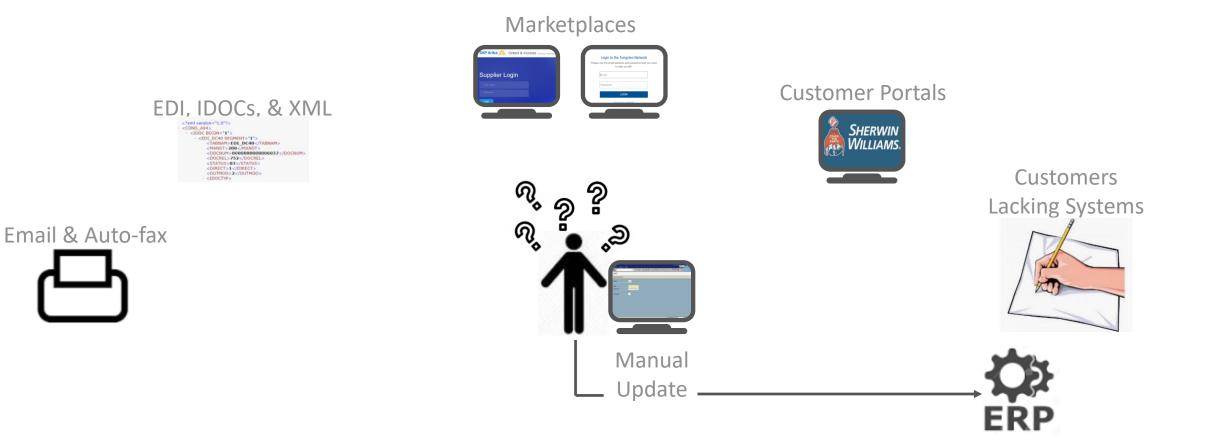
#### Adding a new language will not increase standardization.

# Results Driven Digital Transformation to Improve Customer Service

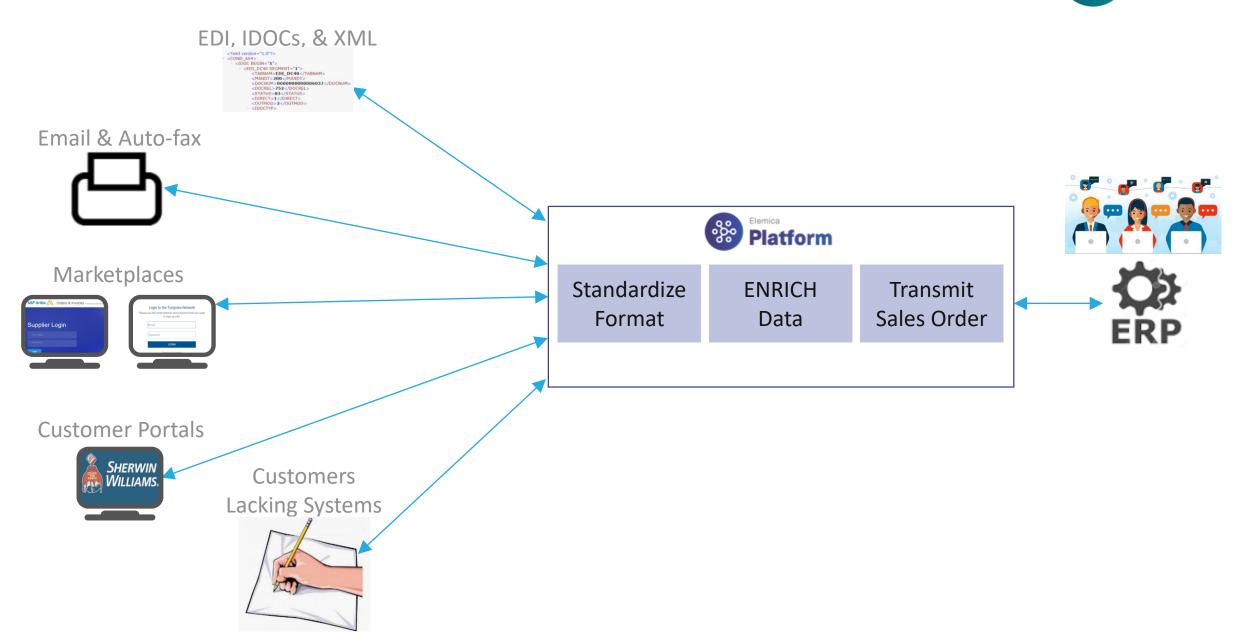
### Sound Familiar?



# Order processing is more difficult than ever due to data formats and data values.



# Elemica's Multi-Channel Approach For Customers



Elemica

Sell

# **Elemica Digital Transformation Solutions**





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- Timeslot Management



Elemica **See** 

Unleash the power of a digital supply chain with visibility and exception management of your order-to-cash and procure-to-pay processes.

#### Products:

- Pulse
- Trace
- Risk

### ENRICH

# **Elemica**

#### **Features**

$\checkmark$	Data	pre-process	ing:
--------------	------	-------------	------

- ✓ Location, product and UoM
- ✓ Bulk to packaged
- ✓ Packaging size increments
- ✓ Volume based product cross-reference

#### ✓ Business routing:

- ✓ Sold to, sales org, and source plant determination
- ✓ Route orders to the correct people

#### ✓ Governance

- ✓ Alerts and notifications
- ✓ Audit control
- ✓ Governance model
- ✓ Self-service management

#### Manage external customer data variability efficiently. Simplify internal PIM and PLM.

E	emica							ENRIC	H RAMAN	D >		
÷	Unit of Measure	: <b>±</b>	Product	Location Unit of Meas	Advanced							
	Buyer ID				PUT 📥	OUTPUT 📥						
	All	Ŧ	ACTIONS									
	Seller ID		C 🕯	King Cat Holdings (9878		MT	MET	1.0000000	3	0.5000		
	All Buyer UOM	*	6	King Cat Holdings (9878	Whitford (789654123)	LB	KGM	0.4950495	3	0.5000		
	All	-	12° 11	Clampett Oil (123456789)		LB	KGM	0.4950495	2	0.5000		
	Seller UOM		C 🖬	Clampett Oil (123456789)		KG	KGM	1.0000000	3	0.5000		
	All	*	C 🕯	Clampett Oil (123456789)	Whitford (789654123)	MT	KGM	1000.0000000	4	0.5000		

#### **EXAMPLE Conversion Supported**

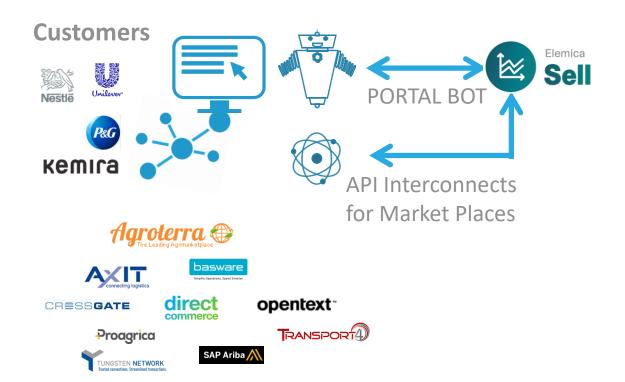
A customer orders in KGM using a single product ID. They want you to supply in either Drum or Bulk depending on the quantity.

- <10000 KGM is sold in 55 Gallon Drums (Supplier Product ID =A)
- >10000 KGM is sold in Bulk (Supplier Product ID = B)

A 3200 KGM order resolves to 12 Drums of Product A\* A 11000 KGM order resolves to 24,251 LBR of Product B

### **Customer Portal Assistant**





#### **Features**

- ✓ No need to go websites for orders
  - ✓ Reduce errors, accelerate payments
  - ✓ Increase CSR job satisfaction
  - ✓ Suppliers realize a 25% reduction in AR costs and 8.9% lower DSO\*
- ✓ Less IT cost and pain.
  - No need for client to create, maintain, and staff a cXML infrastructure
  - ✓ Less IT focused on non-differentiating work
  - ✓ Lower on-going support costs

# **Customer Order Form - Email**



1.	Send Email	File Message Insert Op	ptions Format Text Revi	riew Help 📿 Te	II me what you want to do
2.	Click Link	File Message Hel Neights, Gary Click This Link Retention Policy Standard Mai	Neights, Gary to Finalize Your Ord ilbox Retention Tag (3 years)	)	2 c36c816236a5/
		Elemica Ship Notice Englan V		Shipment N	
3.	Finalize Order	BUYER Vining Eco Products DUNS: E0E0001 Elan Sneiders Oosterdokskade 143 Amsterdam NL 1011 DL	seller Hydremica Company DUNS: HYDREMICA03 Maria Schafer Beecker Str. 80 Duisburg DE 47166	2019-02-1 SHIP TO VINING ECO PT ID EOE0001 Kronos Savelberg 03628663411 Oosterdokskade 1 Amsterdøkskade 1	11 (1) (2019-03-24 (1)) roducts gh
		OPTIONAL SHIPMENT INFORMATION > Shipment Lines SHIPMENT LINE 1 (FOFOCL320MN/S/LINE 18) ID WW4Q0VLP26 DESCHIPMON DHHYDROCEN MONOXIDE REQUESTED DELIVERY 2019-03-24 (00.00) CONTIRMED DLIVERY 2019-03-24 (00.00) CONTIRMED DLIVERY -	9610 KGM	Confirmed Quantity - # of Shipment Units	Shipment Quantity * 9610 KGM
		SHIPMENT LINE 2 (POF DCL13200MV57 LINE 25) ID SSQVXP782 DSSGVXP782 DSSGVXP782 DSSGVXP782 OCONTRINED DELIVERY - 019-03-24 (00:00) CONTRINED DELIVERY - ADD LOT INFORMATION +	18610 KGM	Confirmed Quantity - # of Shipment Units	Shipment Quantity *
		O Submit to send ship notice to customer		BACK TO LINE SELECTION	to the Terms of Use and the Privacy Policy a SUBMIT SHIP NOTICE

#### **Features**

- ✓ Customer and sales agent ordering app
  - ✓ Works on desktop, laptop, or mobile
    - ✓ Android, Apple, or Samsung
  - ✓ Multiple security layers

#### ✓ Fast easy ordering

- ✓ *Easier than Amazon!*
- ✓ No usernames, passwords, or registration
- ✓ No screens to navigate

#### ✓ Self-service administration

- ✓ Setup delivery locations and products
- ✓ Send the buyer the ordering email address

#### ✓ Benefits

- ✓ Cost effective, pervasive automation
- ✓ Added level of customer service
- ✓ More responsive field service support

### **Customer Order Form - Text**



#### **Features**

- ✓ Customer and sales agent ordering app
  - ✓ Works on Android, Apple, or Samsung
  - ✓ Multiple security layers

#### ✓ Fast easy ordering

- ✓ *Easier than Amazon!*
- ✓ No usernames, passwords, or registration
- ✓ No screens to navigate

#### ✓ Self-service administration

- ✓ Setup delivery locations and products
- $\checkmark\,$  Send the buyer the ordering email address

#### ✓ Benefits

- ✓ Cost effective, pervasive automation
- ✓ Added level of customer service
- ✓ More responsive field service support

- 1. Send Text
- 2. Finalize Order
- 3. Get confirmation



# **QL Email Sell**: for Inbound Customer Orders

SUPPLIER:

Stockcode

04-10285

04-10285

10

10



Elemica Sell

**Features** 

✓ Email processing

✓ Order processing

✓ Verify order data

✓ Unknown buyer

✓ Verify authorized buyer

✓ Alerting and workflow

✓ Unrecognized document type

✓ Cannot determine customer

✓ Unknown ship to address

✓ Map attached order (PDF, XLS, etc.)

✓ Convert street addresses to codes

✓ Receive email

## OCR Module for QLE Sell



lyValidator			Please o	orrect th	is error					Document Status	Labels	Tools
er Smoothing_AAA	< P	O Number:		PO Number: 20181126NB1 ~			- >		An unexpected value was captured for the Document			
1126NB1 2018-11-26 1:56:10 PM Files	• •				Re-	Process /	Add Split	Delete	Number. Ple	ease make any necessa	ry changes.	<u> </u>
		۹ 🗛	Edit Results									٩
3												
												1
Kruger PURCHASE O	PO Number: 20181126NB:											
Smoothing	PO Issue date: 11/26/2018			Kruger			PURCHAS	FORDER		PD Number: 20181126N81		
PO Box 24530 Maple Shade, NJ 08025	Vendor: Muller Distribution 563 Old Mill Road			Smoothing						Release Number: PO [seve date: 11/25/2018		
Phone: 6092880900 Fax: 6092889001	Pittsburgh, PA 15238 Phone: 4129198102			We small to you PO Box 24530	dan't have to?					Vendor: Muller Distribution		
Fax: 6092889001	Fax: 4129165110			Maple Shade, N Phone: 609288						563 Old Hill Road Pittaburch, PA 15238		
	Email: gneights@elemica.com			Fax: 509288900	4					Phone: 4129198102 Fax: 4129165110		
Ship to: Receiving Dock D 1924 Oak Way	Delivery Date: 11/25/2018 TERMS: FOB									Email: greights@elemica.com		
Maple Shade, NJ 18052				Ship to: Receivi	g Dock D					Delivery Date: 11/25/2018		
Special Instructions: Nick Brown must approve. 888	888888888	- 1		1924 Oak Way Hapie Shade, N	18052					TERMS: FOB		
Line QTY UoM P/N Description	Del Price Extender			Special Instructi	10F	Minis Re-	ann must approve. BBB					
	12/29/2018 \$ 7.15 \$715					HILL BO	ини полк арреоте, выи					
				Line 0010	QTY 102.02	UreM EA	P/N 105143	Description	Del 12/29/2018	Price	Extended	
0020 10.00 EA 191204 Brown – L20 Notes:	12/29/2018 \$ 17.15 \$171	50		Notes:	100.00	EA	135143	Brown - L10	12/29/2018	\$ 7.15	\$715.00	
0030		_		0020	10.00	EA	191204	Brown - L20	12/29/2018	\$ 17.15	\$171.50	
Notes:		_		Notes:								
				0035								
				Nobes:								
		~										
/1 >										_		_

#### **Features**

- ✓ Optical character recognition
  - ✓ Convert images to text
- ✓ Error correction
  - ✓ Resolve 8/B, 0/O, I/I/1/!, etc. inaccuracies
  - ✓ Check sums
- ✓ Easy to use workflow
  - ✓ Potential issues are highlighted for resolution
  - ✓ Typically less than 2 minutes per order

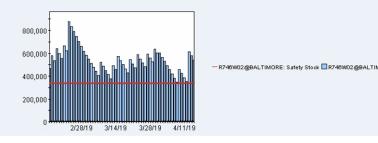
#### Email & Auto-fax



### VMI: Vendor Managed Inventory



Your Links												
	746W02 @ BALTIM 14-Feb-19 Thu		-									2/14/19 12:02 PM 25-Feb-19 Mon 26
Forecast	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464	42,911.464		42,911.464
In Transit	144,205	154,283	<u>0</u>	<u>147,798</u>	<u>0</u>	<u>0</u>	153,208	<u>0</u>	298,706	<u>0</u>	<u>0</u>	<u>0</u>
Firm Orders	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Planned Orde	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	Q	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
🗌 Proj OH 🛛 🗸	466,084.934	577,456.469	534,545.005	639,431.541	596,520.076	553,608.612	663,905.148	620,993.684	876,788.219	833,876.755	790,965.291	748,053.826
$\langle \rangle$	336,719	336,719	336,719	336,719	336,719	336,719	336,719	336,719	336,719	336,719	336,719	336,719
	<											



#### **Features**

#### ✓ Multi-party data processing

- ✓ Customer demand
- ✓ Automated Inventory Status connectivity
  - ✓ w WMS, telemetry, IoT, etc.
- ✓ Supplier order processing status
- ✓ Carrier shipment status
- ✓ Proof of delivery
- ✓ Advanced algorithms
  - ✓ Lead times, shipment sizes, and calendars
  - ✓ Static or floating safety stock
  - ✓ Multi-echelon (intermediate stocking points)
- ✓ Order generation
  - ✓ Hands-free (tends to have best performance)
  - ✓ Monitored (may have human induced swings)

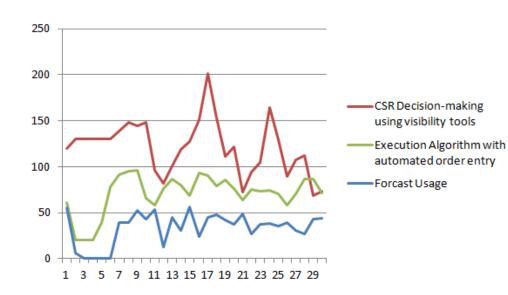
# VMI Value

30



VMI on high volume customer tanks predicts a savings of nearly **6% in total mileage** driven and **12% fewer total delivery trips**. This savings is achieved through superior truck utilization on routes services by VMI, where the **total mileage required is estimated to be 10% lower** than under the current system.

Vendor Managed Inventory vs. Order Based Fulfillment in a Specialty Chemical Company Dimitrios Andritsos and Anthony Craig MIT



annum the shall be

Source: Supply Chain Council Presentation on Elemica VMI April 9th, 2013



#### VMI Value

- Working Capital:
  - Inventory reduced by 41%
  - EUR 24,000 per year:
    - 8% cost of capital
    - 33,200 KGM / Day
    - 7 EUR / KGM
- Visibility to stock levels

### **Delivery Schedule**



Manage Your Links Ҟ 💤 Home   Log Out SuperUser   About   Help 📴 🚛
Scenario Live 👻 Search DS_Buyer_Product_ID_PIP (PT) 🔍 📀 🕌 🌄
Ship To:Delfor_ST_001 Unloading PT:NA Records 1-1 of 1 (COP)
Partner Buyer ID Partner Buyer Name
Delfor_ST_001 ChemCo-Buyer2
DS_20_SS_Export_Settings
03_20_33_cAport_settings
ID:Delfor_Product_001 Ship To:Delfor_ST_001 Unloading PT:NA Records 1-3 of 3 GG 3.
C Doc ID OC Doc Date OCH Doc ID OCH Doc Date
CHED OC 455 10/1/13 18:01 DELSCHED OCH 467 10/5/13 18:09
CHED OC 466 10/1/13 18:01
CHED_OC_470 10/12/13 18:29

#### **Features**

#### ✓ Schedule Line Processing

- Convert difficult to process schedule lines into orders or changes
- ✓ Upon shipment, orders frozen

#### ✓ Flexible Configurations

- $\checkmark$  At the product-location level
- ✓ Firm flags and/or frozen zones
- ✓ Order create lead times
- ✓ Order change lead times
- ✓ Auto-setup defaults at the location level
- ✓ Business Friendly Alerting
  - ✓ Notify customers or CSRs if inside freeze zones
  - ✓ Alert upon auto-setup

## **Invoice Compliance**

Human Readable

**Compliant Invoice** 

Elemica		HOME DISCOVERY CAMPAIGNS ROOMS DASHBOARD SMARTLINK APPS
	Q. BASF Invoice	SILARCH     Enter start data-time     O     — Enter end data-time     O
	Live 🗸 7.64M Results	S X C IN OUT BUSINESS TECHNICAL QL 10 QL 20 O SUBMIT MESSAGE O CSV DOWNLOAD
	✓ MESSAGE	FROM TO TIMESTAMP TRANSACTION ID
	Invoice	BASF ICO InterCompany 1 (3150 BASF ICO InterCompany 2 (3150 15 Feb 2019 10:45:56 EST 6530041822
	C InvoiceBASF50 5.0	DOCID Z2L0000003731733993
	C COMLAD MESSIE	COUNC       Permet Massage       OF       OF         MUTTATTATTATTATTATTATTATTATTATTATTATTATTA
DE DESERT DE COMPANY DE COMPANY D	Andread Andrea	Propriet information     Propriet informa
in the second second		Electronic Signature
All Andreas and a second secon		for Business Control

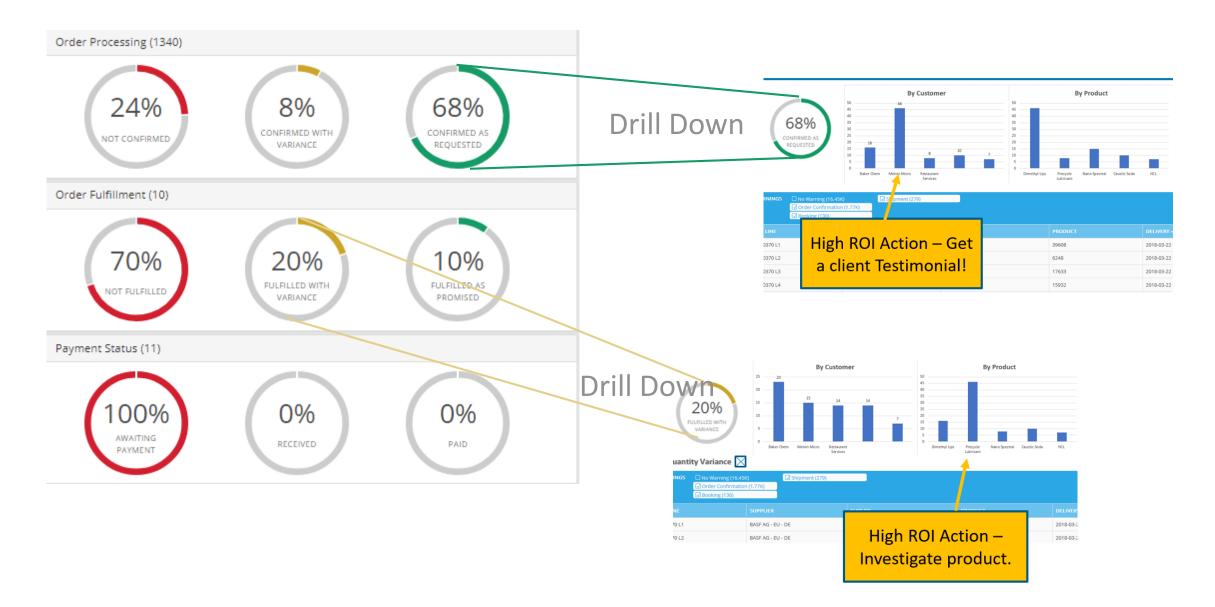


### **Features**

- ✓ Invoice Signatures and Archive
  - ✓ EU-compliant signatures by Sovos TrustWeaver
  - ✓ EU-hosted compliant archive
- ✓ Business Controls
  - ✓ Auditable, compliant system
- ✓ Invoice Clearance Support
  - Custom integration of shipping documents and invoices to meet country specific requirements for prior invoice approval

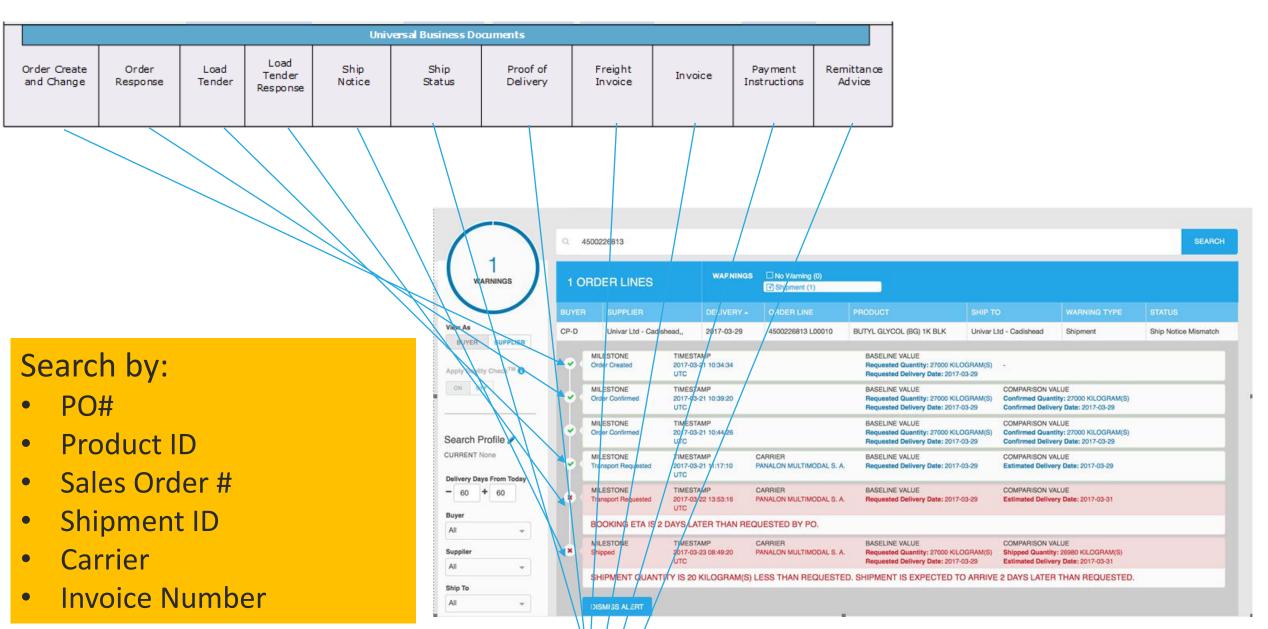
### **Customer Service Dashboard**





# **Business Visibility and Alerting**





# **Trace**: Real Time Shipment Tracking w "GPS" Signal Capture providing Predictive ETA Calculations



