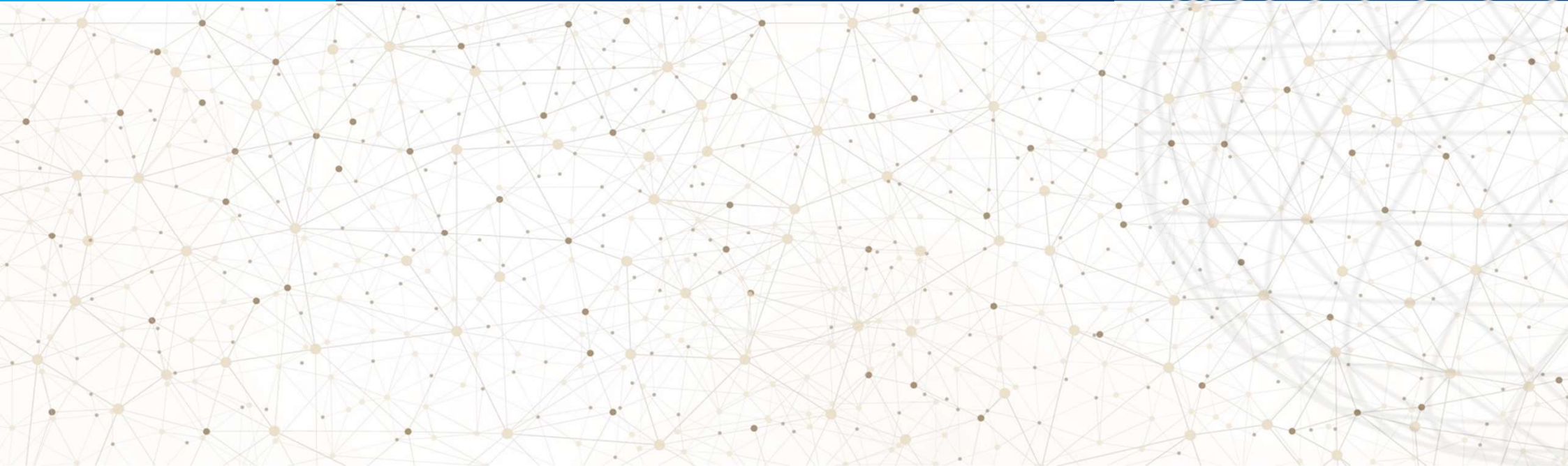


CEM = Cause & Effect on Raw
material price



Background

- Changes in raw material price and availability directly effects gross margin and profit of the company



Covid 19 induced global supply chain is the most recent example



Shortage of raw material & rising demand

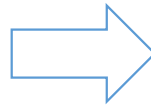


High price increase & record-long raw material lead time

Goals



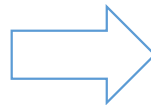
Monitor our transactions with suppliers



Business Intelligence report giving insight into APEM consumption



Be sensitive to price changes and material availability information



Understand events and factors the result in price fluctuations

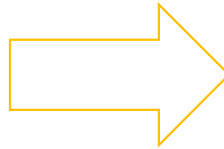
And create link real life events to the price trend

BI Report



Data source - APEM's internal database

- Material Master data
- Supplier Order
- Supplier Details



Views the provide business insight into APEMs consumption

Find the major materials being used - > Use this for the next step of the project

Understanding Price evolution

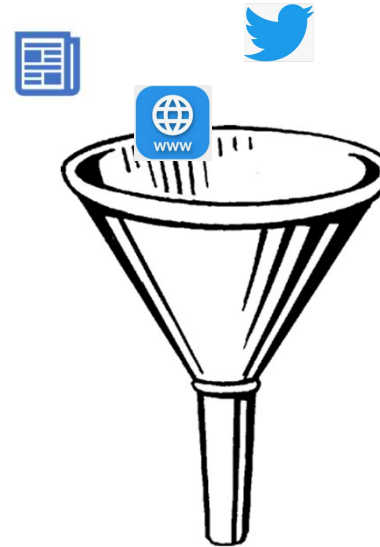


External data

- Geo-political developments
- Environmental events
- Global transport

:

Sourced from news, social media and other online sources



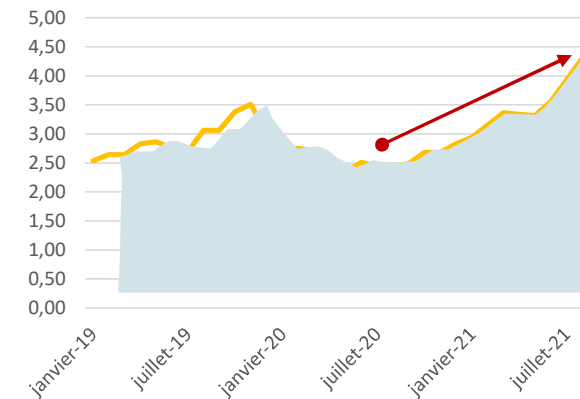
AI/ML that
selects,
scores and
aggregates
the
information

Quantify factors and
events that influence
price evolution of key
raw materials
not predicting the future

Current trends of Raw materials



Stainless steel +48 to 80% in 1 year



Plastic PE + 160%
in 1 year

Plastic PP +123%
in 1 year

Aluminium + 30%
in 1 year

Deliverables and timeline



Data Sources - APEM internal

Product data

For Raw materials

APEM PRODUCT DATA BASE						
Code article Material Number	désignation Article Material description	Type produit Product Type				
ITEMID	ITEMNAME	ItemGroup_Name	PRODUCTPURCHSUB	PRODUCTPUR	PRODUCTPUR	PRODUCTPURCHFAN
10-1207	Rouleau Condensateur	Matières Premières				
10-1250	Fil UI 1569 26sr Bleu Clair	Matières Premières				
19000023	SILICONE TRASPARENTE SPESS.0,6MM	Matières Premières	IV-CMMI-Others chemic	III-CM-Chemical M	II- KEYBOARDS	1-PURCH STORED Items
2515-0046	LEXAN HP92S 750um 610 X915	Matières Premières	IV-PMPL-Polycarbonate	III-PM-Printing M	II- KEYBOARDS	1-PURCH STORED Items
40443AGCDO	...Bande Bim 2 Pistes 18,5x0,7	Matières Premières				
40445AGCDO	Bande Bim 2 Pistes 35,6x0,5	Matières Premières	IV-BDBM-Bimetal band	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
95402600000	Multibr. Ky 1mm Noir	Matières Premières				
AC2000500	B Acier Doux F12 Recuit 20x0,5	Matières Premières	IV-BDST-Steel band (Sw	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
AC2600600	Bd Acier F12 T1 Recuit 26x06	Matières Premières	IV-BDST-Steel band (Sw	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
AC3300800	Bd Acier F13t1 33x0,8	Matières Premières	IV-BDST-Steel band (Sw	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
AC4400800	Bde Acier F13t1s1 44x0,8	Matières Premières	IV-BDST-Steel band (Sw	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
AC5100100	Bande Acier 51x1	Matières Premières	IV-BDST-Steel band (Sw	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
ACIER500X300X4	Tole Tkm2379 500x300x4	Matières Premières	IV-MLAB-Aluminium blc	III-ML-Milling mat	II- KEYBOARDS	1-PURCH STORED Items
ACS300PBD08	Barre Acier S300pb D8	Matières Premières	IV-BAST-Steel bar (Swit	III-BA-Turning bar	II- SWITCHES	1-PURCH STORED Items
AI1390151	Inox X10crni18-8e6 13,9x0,15	Matières Premières	IV-BASS-Stainless steel	III-BA-Turning bar	II- SWITCHES	1-PURCH STORED Items
AI1600600	Bd Inox X6cr17 Recuit 16x0,6	Matières Premières	IV-BASS-Stainless steel	III-BA-Turning bar	II- SWITCHES	1-PURCH STORED Items
AI2000080	Binox Z10cn18-094/4ecr 20x0,08	Matières Premières	IV-BDSS-Stainless steel	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
AI2500300	Bd Inox X5crni18-10 E2 25x0,3	Matières Premières	IV-BASS-Stainless steel	III-BA-Turning bar	II- SWITCHES	1-PURCH STORED Items
AI4600402	Bande Inox 316l Recuit 46x0,4	Matières Premières	IV-BDSS-Stainless steel	III-BD-Stamping b	II- SWITCHES	1-PURCH STORED Items
ALD10	Barre Alu 6082 Ø10	Matières Premières	IV-BAAL-Aluminium bar	III-BA-Turning bar	II- SWITCHES	1-PURCH STORED Items

Data Sources - APEM internal

Supplier Orders

Exclude APEM
and IDEC

Only include
invoiced orders

APEM Supplier orders											
N° de commande fournisseur	N° code fournisseur	Désignation fournisseur	Date de création de la commande	Article commandé	Quantité commandée	Quantité livrée	Unité achat	Désignation ligne	Acheteur	Statut ligne	
supplier Order Id	Supplier Code	Supplier name	date of creation of the order	Material ordered	Quantity Ordered	Quantity delivered	Purch unit	Line description	Buyer	Line status	
PURCHID	ORDERACCOU	Purch_Name	CREATEDDATETIN	ITEMID	PURCHQ	Delivered_Q	PURCHUN	PurchLineName	BuyerGroup_Nan	PurchStatusName_Li	
PO000011851	FF003595	PEM	05/03/2020	RSC0007-9Z	-26580	-26580	PCS	SURFACING TREATMENT - Gold plate	Christine Lanies	Invoiced	
PO000013552	FF014965-1	IDEC CORPORATION	05/02/2020	XW1E-TV403Q4MR	1000	1000	PCS	XW_ILLD_E-STOP, XW_ILLD,40mm, 2	Emilie Debord	Invoiced	
PO000014118	FF004413	INOVELEC INDUSTRIE	09/06/2020	STMC1202V14	40	40	PCS	S/T Cabl Carte Ee01202/N	Fanny Vermande	Invoiced	
PO000014172	FF014726	WOCHETEX (H.K) LTD	28/01/2020	E60DF988V70	3922	3922	PCS	Cir.Imp.Ee00988/G-Navig (X10)	Fanny Vermande	Invoiced	
PO000014183	FF004859	AEP ELECTRONIQUE	27/02/2020	S90CE1327E	5	5	PCS	Cordon Equipe Cla Tir Pra686	Fanny Vermande	Invoiced	
PO000014459	FF005018	ESSENTIA COMPONENTS	20/02/2020	FRAIS/TRANSPORT/2	1	1	PCS	Transport cost	Fanny Vermande	Invoiced	
PO000014593	FF003202	ATOS	25/02/2020	P70T2570300710	-404	-404	PCS	Touche Emboutie N°007	Fanny Vermande	Invoiced	
PO000014593	FF003202	ATOS	18/03/2020	P70T2570300710	404	404	PCS	Touche Emboutie N°007	Fanny Vermande	Invoiced	
PO000014593	FF003202	ATOS	06/05/2020	P70T2570301210	-500	-500	PCS	Touche Emboutie N°012	Fanny Vermande	Invoiced	
PO000014593	FF003202	ATOS	06/05/2020	P70T2570301210	500	500	PCS	Touche Emboutie N°012	Fanny Vermande	Invoiced	
PO000014702	FF003705	CONRAD	02/07/2020	P10Q111226513	-1900	-1900	PCS	VISTORX BOMB2	Fanny Vermande	Invoiced	
PO000014702	FF003705	CONRAD	02/07/2020	P10Q111226513	1900	1900	PCS	VISTORX BOMB2	Fanny Vermande	Invoiced	
PO000014738	FG01700G	APEM COMPONENTS LTD	06/01/2021	UX9947	100	100	PCS	Custom Ålð joystick C level	Emilie Debord	Invoiced	
PO000014738	FG01700G	APEM COMPONENTS LTD	06/01/2021	UX9947	100	100	PCS	Custom Ålð joystick C level	Emilie Debord	Invoiced	
PO000014738	FG01700G	APEM COMPONENTS LTD	06/01/2021	UX9947	100	100	PCS	Custom Ålð joystick C level	Emilie Debord	Invoiced	
PO000014738	FG01700G	APEM COMPONENTS LTD	06/01/2021	UX9947	100	100	PCS	Custom Ålð joystick C level	Emilie Debord	Invoiced	
PO000014738	FG01700G	APEM COMPONENTS LTD	06/01/2021	UX9947	100	100	PCS	Custom Ålð joystick C level	Emilie Debord	Invoiced	

Data Sources - APEM internal

Supplier Details

DATAAREAID	NAME	CITY	County_Name	COUNTRYREGIONID	VendorGroup_Name
be01	APEM SAS	Caussade Cedex	Tarn-et-Garonne	FRA	Intracommunautair INTRAGROUP
be01	APEM GMBH	D-81549 MUNCHEN (GMBH)	UNKNOWN	DEU	Intracommunautair INTRAGROUP
be01	BELGACOM	PEUTIE	UNKNOWN	BEL	Telecom
be01	DAL VELDEKENS	Bruxelles	Brussels Hoofdstedelijk Gewest	BEL	Advocaat BE
be01	MAKRO nv	Machelen	R?gion Flamande	BEL	Kantine BE
be01	BPOST	CITE ADMINISTRATIVE DE L'ETAT	UNKNOWN	BEL	Post
be01	GROUP S - SERVICE SOCIAL	BLANK	BLANK	BLANK	Belgique
be01	EDENRED BELGIUM TICKETS RESTO	Auderghem	Brussels Hoofdstedelijk Gewest	BEL	Tickets Restaurant personeel
be01	KONICA MINOLTA NV	Nossegem	R?gion Flamande	BEL	Kopieermachine onderhoud BE
be01	PROXIMUS	BRUSSEL (SINT-JOOST-TEN-NODE)	UNKNOWN	BEL	Telecom
be01	UNITED PARCEL SERVICE BELGIUM	BLANK	BLANK	BLANK	Transport Aankoop BE
be01	VAN GEYSEGHEM THIERRY		UNKNOWN	BEL	Kostennota personeel
be01	RAI INTERNAT.EXHIBITION CENTRE		UNKNOWN	NLD	Intracommunautair NON GROUP
be01	APEM COMPONENTS LTD	BUCKS (GRANDE BRETAGNE	UNKNOWN	GBR	Intracommunautair INTRAGROUP
be01	APEM GMBH	Engelsberg	Bayern	DEU	Intracommunautair INTRAGROUP
be01	GOTTAK SL	BLANK	BLANK	BLANK	Intracommunautair INTRAGROUP
be01	HARTMANN Codier GMBH	BAIERSDORF	UNKNOWN	DEU	Intracommunautair NON GROUP
be01	EG RETAIL BELGIUM BVBA	Anvers	R?gion Flamande	BEL	Brandstof wagens BE
be01	APEM INC	HAVERHILL	UNKNOWN	USA	INTRAGROUP Buiten Europa
be01	VAN GEELLEN STANDINRICHTERS	Maarssebroek	Stichtse Vecht	NLD	Intracommunautair NON GROUP
be01	BANDEN KRAAINEM	Kraainem	R?gion Flamande	BEL	Herstelling/Onderhoud wagens BE
be01	MEC APS		UNKNOWN	DNK	Intracommunautair INTRAGROUP
be01	APEM ITALIA S.r.l.	Marene (CN)	Cuneo	ITA	Intracommunautair INTRAGROUP
be01	KIPS CURIE	BLANK	BLANK	BLANK	Accounting BE