



REPUBLIC OF TUNISIA
MINISTRY OF HIGHER EDUCATION AND SCIENTIFIC RESEARCH
UNIVERSITY OF SFAX



TENDERS OBSERVATORY : NEWS & TENDERS OPPORTUNITIES

PRESENTED FOR THE PURPOSE OF OBTAINING THE NATIONAL ENGINEERING DIPLOMA IN DATA
AND DECISION SYSTEMS



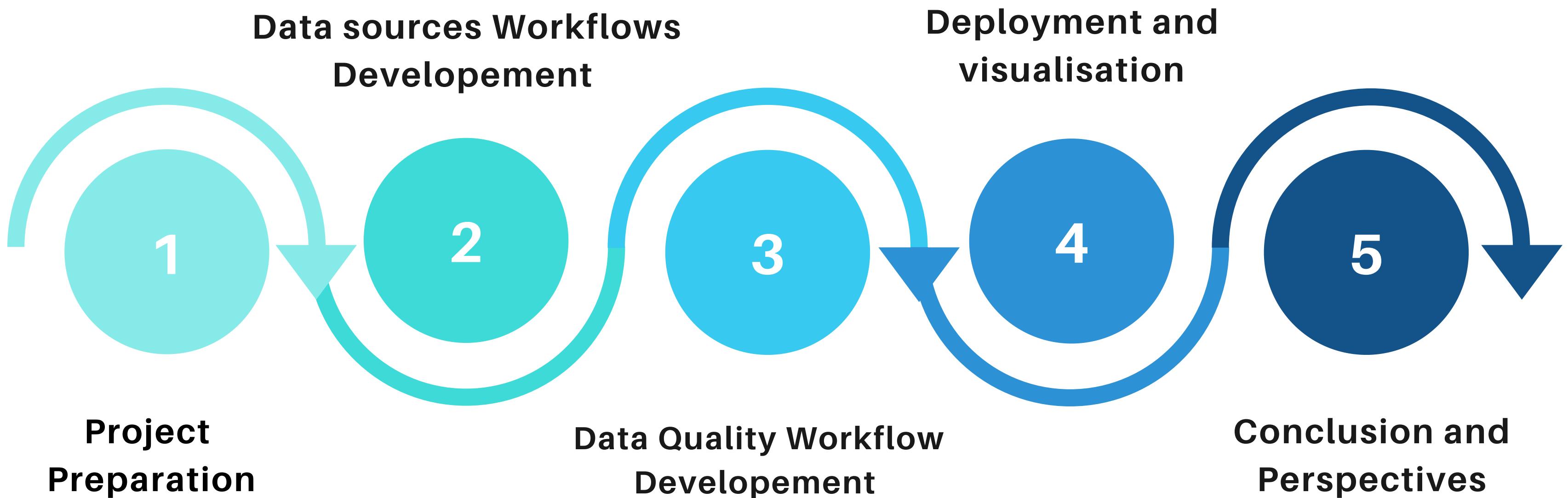
PREPARED BY: GHAITH KRIFA

SUPERVISED BY : TAREK BEN SAID & FAROUK JAZIRI



ACADEMIC YEAR
2024 - 2025

PLAN





PROJECT PREPARATION



HOSTING COMPANY

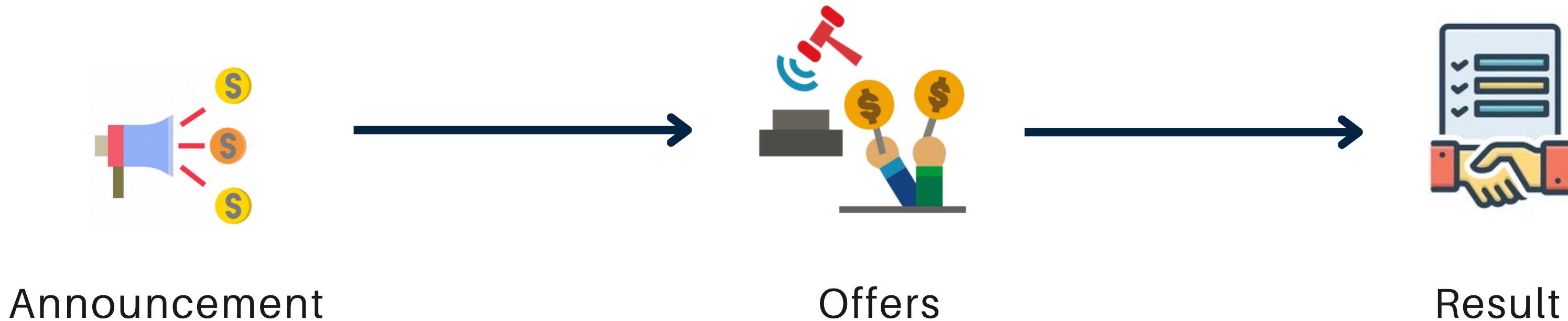
Founded on 2020, specializing in agricultural commodity expertise and market intelligence



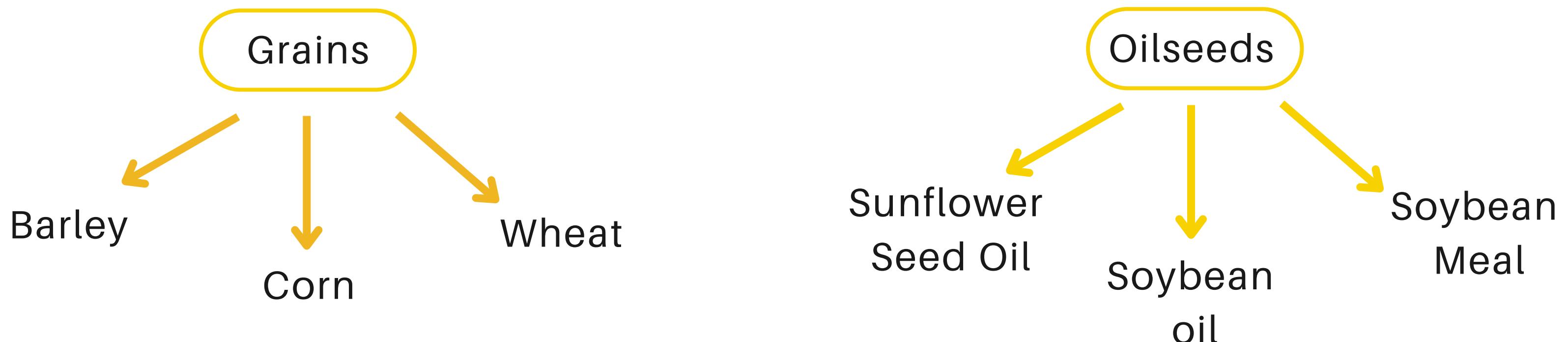


BUSINESS UNDERSTANDING

- What is tender ?



- Our business focus on :



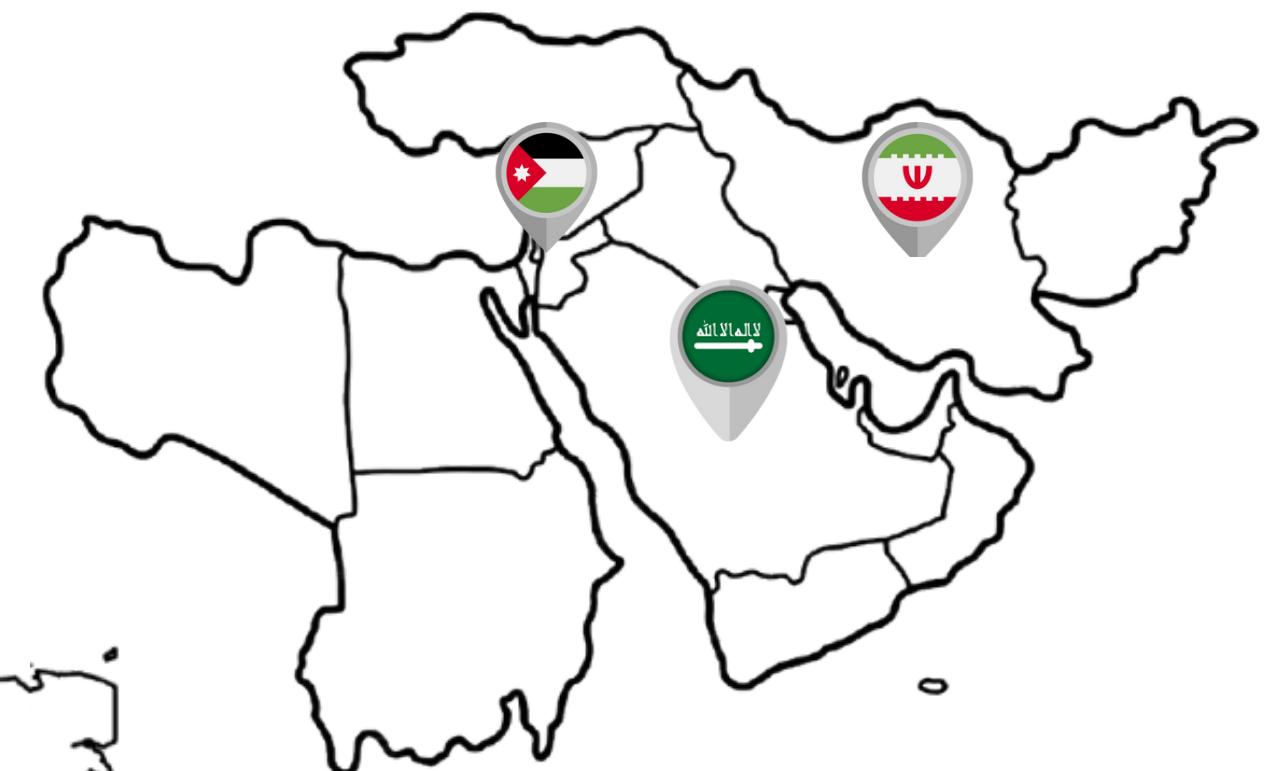


BUSINESS UNDERSTANDING

North Africa



Middle East



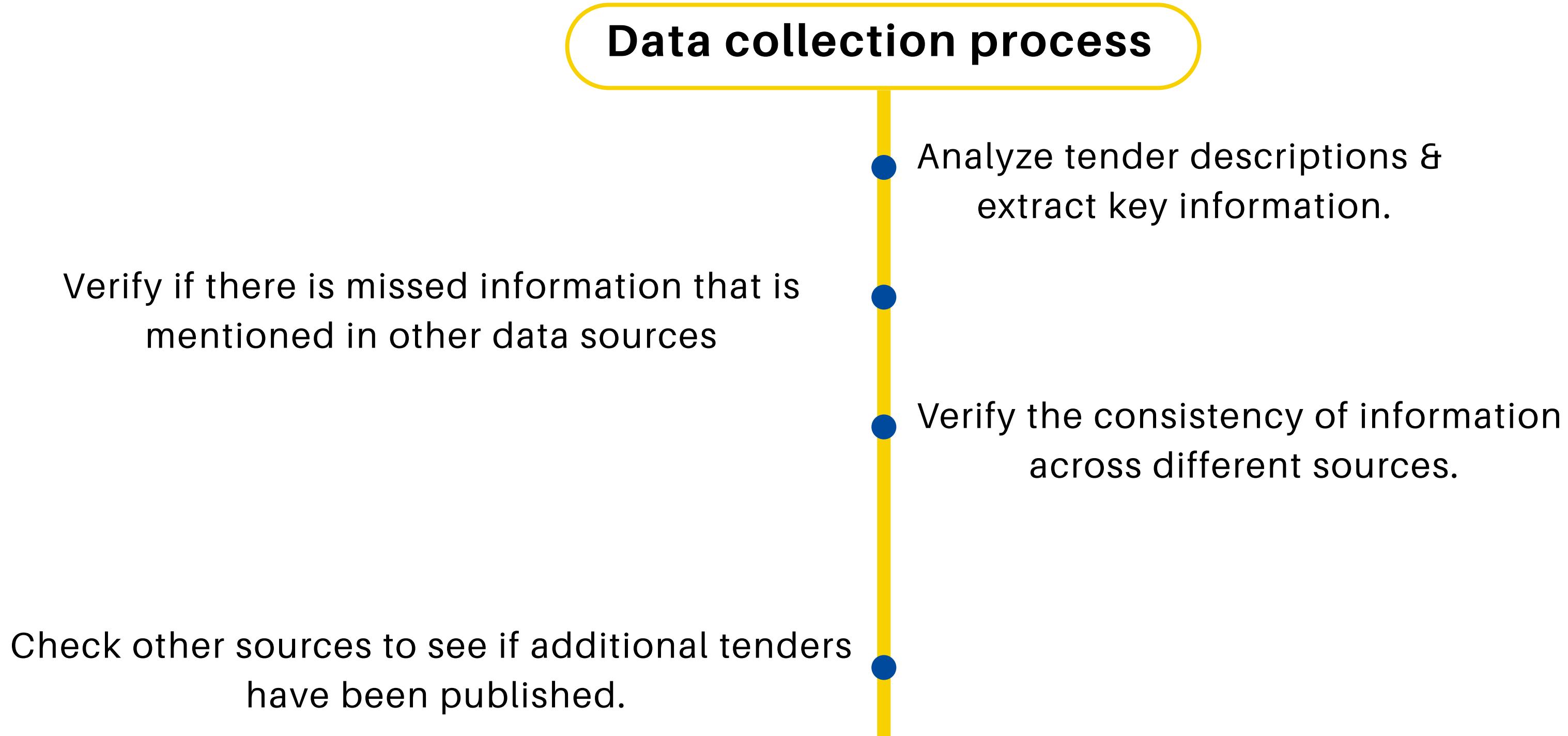
Asia





OVERVIEW OF EXISTING WORK

We have three data sources for collecting tender data



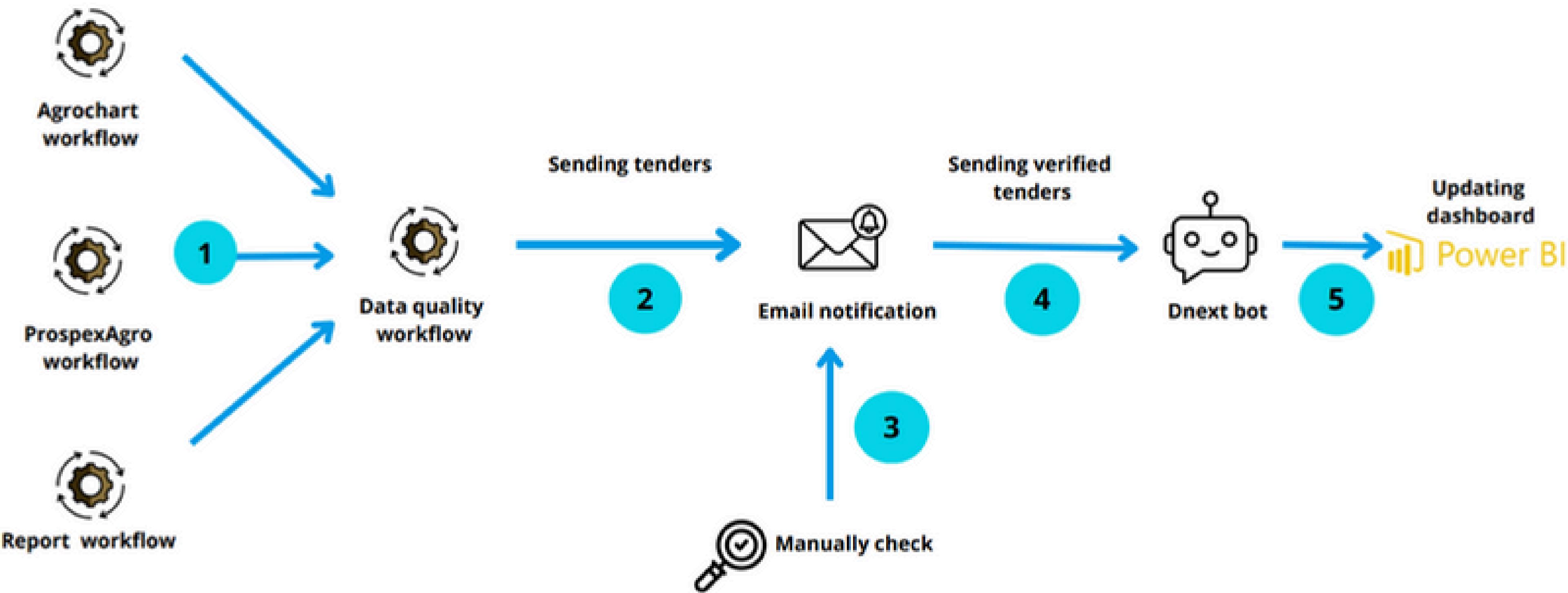


LIMITATIONS

- Manual process involves several complex steps.
- Consumes significant time, delaying real-time updates to our dashboards.
- Risks of human error

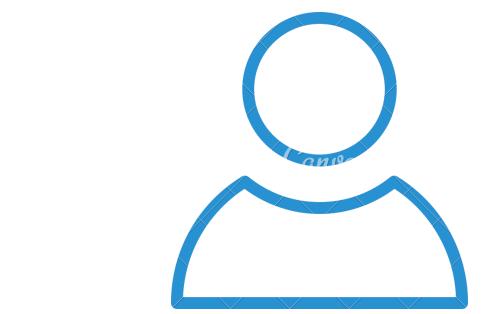


PROPOSED SOLUTION





PROJECT MANAGEMENT WITH SCRUM



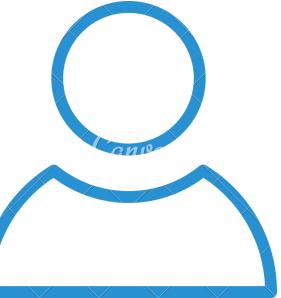
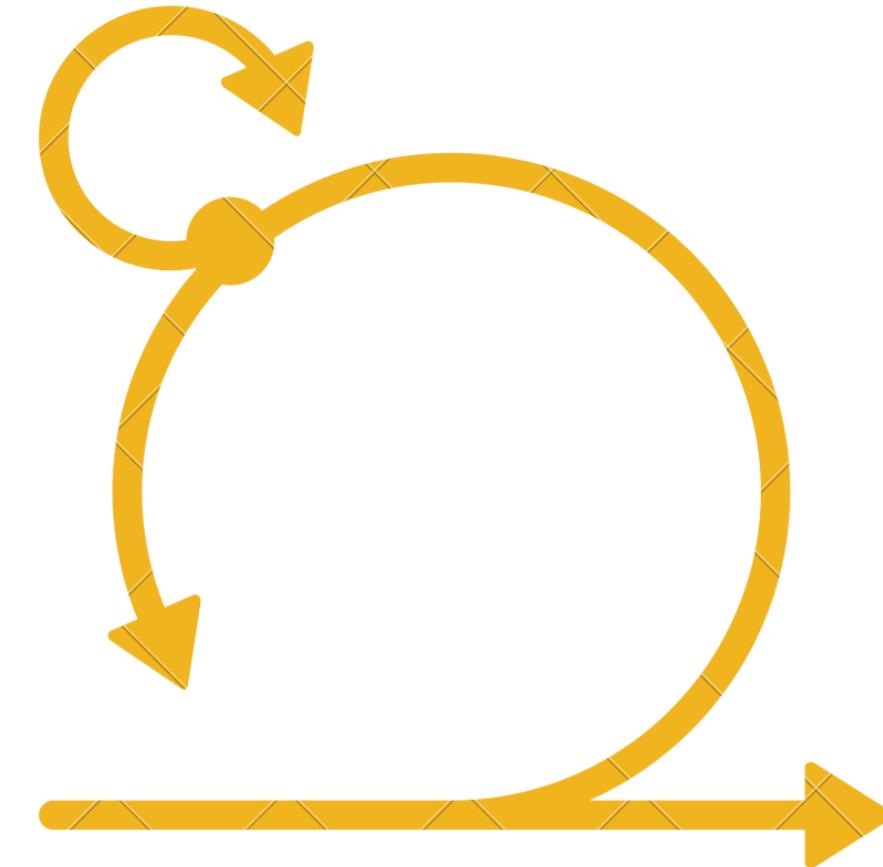
Product owner



Team



**Sprint
Backlog**



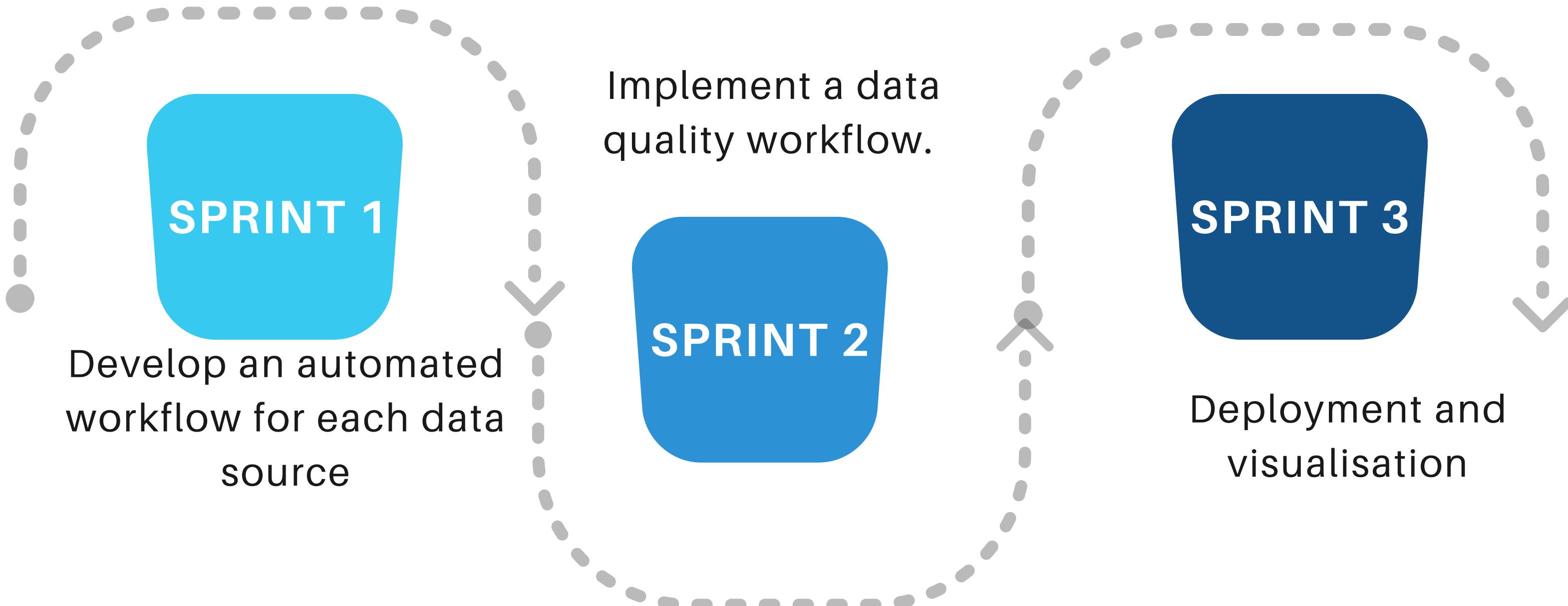
Scrum master



Finished work

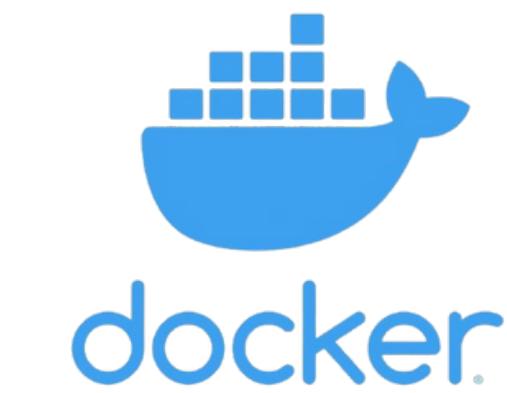


SPRINT PLANNING





DEVELOPMENT ENVIRONMENT





SPRINT 1

**Developing an automated
workflow for each data source**

REPORT WORKFLOW

WEEKLY REPORT (MAY 19, 2025)

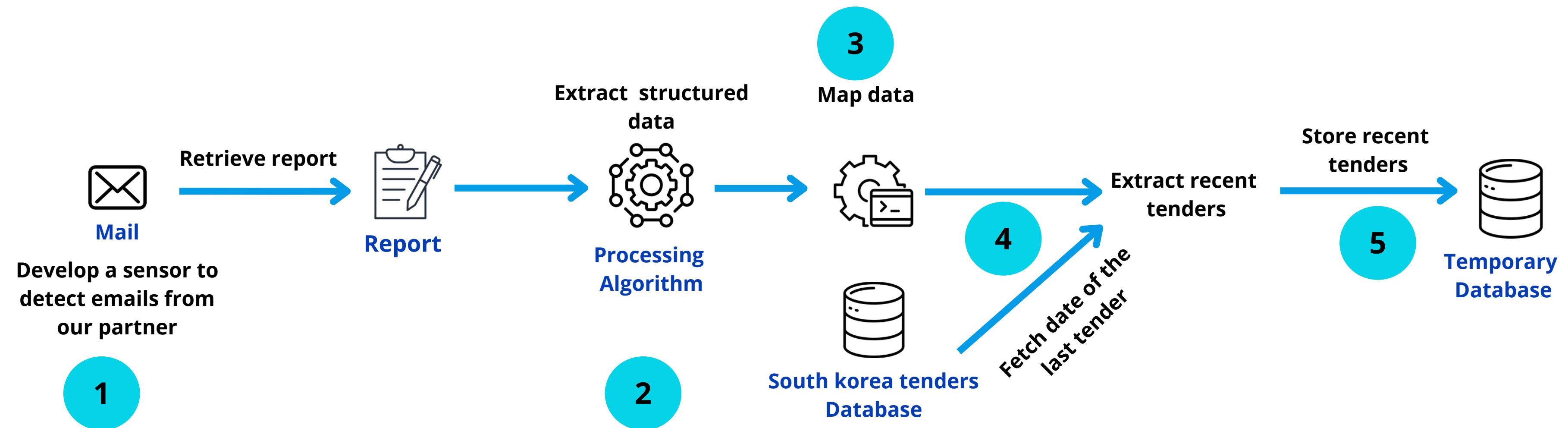
CORN	PURCHASE DETAIL				NEXT DEMAND(ESTIMATED)
	PURCHASE DATE	ETA	SUPPLIERS	PRICE AND TERMS	
NOFI	MAR 27, 2025	JUL 20, 2025	POSCO	65K 10% / 252.49 / 1.50 / WW	SHIPMENT : SEP 20, 2025 ETA BSS - PNW : AUG 18 - SEP 6 - USG : JUL 29 - AUG 17 - SAM : JUL 24 - AUG 12 - SAF : AUG 3 - AUG 22
	APR 30, 2025	AUG 3, 2025	PAN OCEAN	65K 10% / 248.70 / 1.25 / WW	
	APR 30, 2025	AUG 20, 2025	CJIA	65K 10% / 248.70 / 199.30CU / 1.50 / WW	
	MAY 7, 2025	AUG 30, 2025	ADM	66K 10% / 242.96 / 1.25 / WW	
	MAY 14, 2025	SEP 10, 2025	mitsui	65K/55K 10% / 234.46 / 1.50 / SAM/SAF	
MFG	APR 29, 2025	JUL 28, 2025	ADM	66K 10% / 252.33 / 1.25 / WW	SHIPMENT : SEP 10, 2025 ETA BSS - PNW : AUG 8 - AUG 27 - USG : JUL 19 - AUG 7 - SAM : JUL 14 - AUG 2 - SAF : JUL 24 - AUG 12
	MAY 2, 2025	AUG 15, 2025	CHS	67K 10% / 248.40 / 1.25 / WW	
	MAY 6, 2025	AUG 5, 2025	mitsui	65K 10% / 243.30 / 1.25 / WW	
	MAY 6, 2025	AUG 10, 2025	ADM	66K 10% / 242.97 / 1.25 / WW	
	MAY 6, 2025	AUG 20, 2025	BUNGE	65K 10% / 243.30 / 1.25 / WW	
FLC	FEB 26, 2025	MAY 30, 2025	mitsui	67K 10% / 257.69 / 1.50 / WW	SHIPMENT : SEP 15, 2025 ETA BSS - PNW : AUG 13 - SEP 1 - USG : JUL 24 - AUG 12 - SAM : JUL 19 - AUG 17 - SAF : JUL 29 - AUG 17
	MAR 13, 2025	JUN 15, 2025	ADM	66K 10% / 251.80 / 1.50 / WW	
	MAR 27, 2025	JUL 10, 2025	CHS	65K 10% / 252.49 / 1.50 / WW	
	APR 3, 2025	JUL 30, 2025	mitsui	65K 10% / 248.49 / 1.50 / WW	
	APR 30, 2025	AUG 25, 2025	ADM	66K 10% / 248.49 / 1.25 / WW	
KFA INCHON (FBG)	FEB 26, 2025	MAY 20, 2025	CHS	65K 10% / 257.29 / WW	SHIPMENT : SEP 20, 2025 ETA BSS - PNW : AUG 18 - SEP 6 - USG : JUL 29 - AUG 17 - SAM : JUL 24 - AUG 12 - SAF : AUG 3 - AUG 22
	MAR 13, 2025	JUN 20, 2025	CHS	68K 10% / 251.50, 175.00CK / WW	
	APR 3, 2025	JUL 15, 2025	POSCO	65K 10% / 250.90 / WW	
	APR 30, 2025	AUG 5, 2025	mitsui	65K 10% / 248.69 / WW	
	MAY 7, 2025	AUG 30, 2025	CHS	67K 10% / 242.90 / WW	
KFA BUSAN	FEB 6, 2025	APR 20, 2025	OLAM	63K 10% / 258.49 / 1.50 / WW	SHIPMENT : SEP 20, 2025 ETA BSS - PNW : AUG 18 - SEP 6 - USG : JUL 29 - AUG 17 - SAM : JUL 24 - AUG 12 - SAF : AUG 3 - AUG 22
	FEB 25, 2025	MAY 20, 2025	CJIA	65K 10% / 261.50 / 1.00 / WW	
	MAR 12, 2025	JUN 15, 2025	POSCO	65K 10% / 248.74 / 1.25 / WW	
	MAR 28, 2025	JUL 15, 2025	CARGILL	68K 10% / 252.99 / INCL / WW	
	MAY 5, 2025	AUG 20, 2025	LDC	65K 10% / 247.99 / INCL / WW	

Key Advantages

Easy to process

May include tenders not published by other sources

Report Workflow Architecture



AGROCHART WORKFLOW

Advantages

- AgroChart is the most consistent data source
- AgroChart provides data on offers and results of tenders.

Challenges

- AgroChart provides data as textual description

Taiwan bought 100,000 MT US wheat

Taiwan Flour Millers' Association purchased 100,000 MT of US milling wheat in a tender on Thursday, March 27.

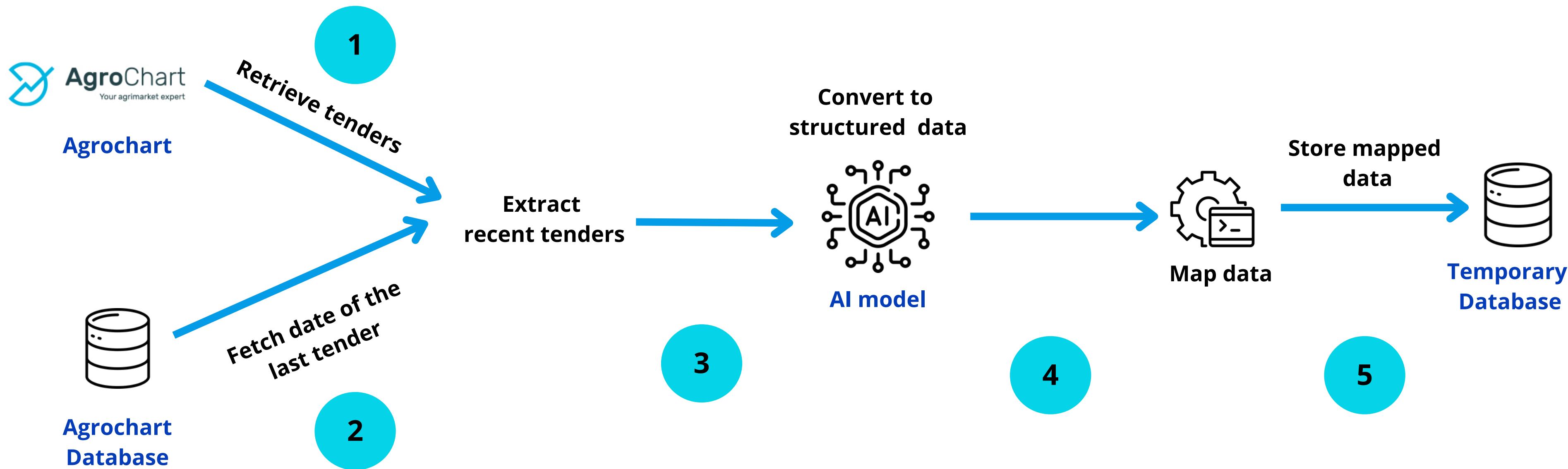
The first 50,000 MT consignment has a freight charge of 39.3 \$/mt for ocean shipping from the US Pacific Northwest coast to Taiwan for May 24-June 17 shipment:

- 32,950 MT of DNS 14.5% at 280.24 \$/mt fob from ADM
- 10,325 MT of HRW 12.5% at 267.12 \$/mt fob from CHS
- 6,725 MT of SW 8.5-10% at 236.26 \$/mt fob from CHS

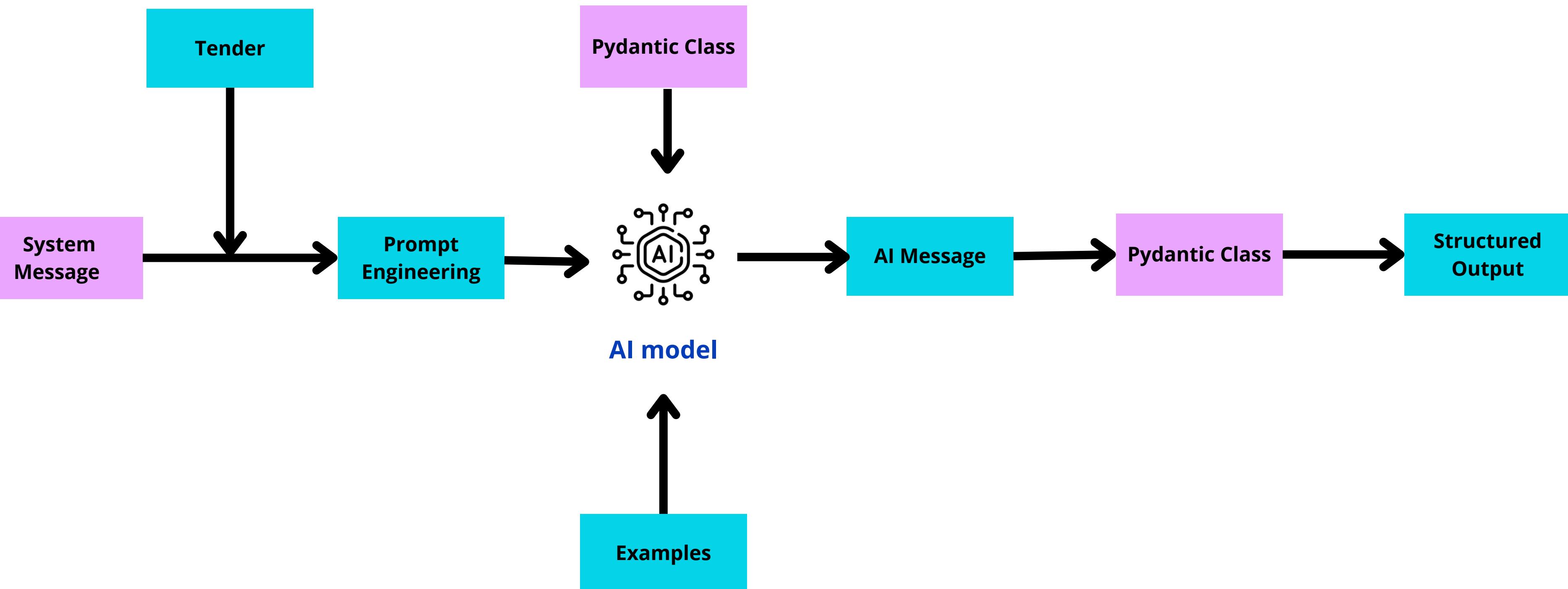
The second 50,000 MT consignment has a freight charge of 39 \$/mt for ocean shipping from the US Pacific Northwest coast to Taiwan for June 16-30 shipment:

- 32,805 MT of DNS 14.5% at 277.63 \$/mt fob from Cargill
- 10,520 MT of HRW 12.5% at 257.36 \$/mt fob from Cargill
- 6,675 MT of SW 8.5-10% at 239.13 \$/mt fob from Cargill

Agrochart Workflow Architecture



MODEL DEVELOPMENT FOR KEY INFORMATION EXTRACTION



Model performance

- 30 documents containing a total of 100 tenders

Field	Deepseek R1	Mistral Small	Mistral Medium
Number of tenders extracted in one text	95%	98%	100%
Reported date	100%	100%	100%
Country	100%	100%	100%
Product	100%	100%	100%
Quality	98%	93%	95%
Price	99%	95%	98%
Delivery start	95%	93%	96%
Delivery end	98%	98%	98%
Quote type	98%	93%	96%
Delivery term	95%	95%	95%
Company	95 %	90%	98%
Currency	100%	100%	100%
Unit	100%	100%	100%
Origin	100%	100%	100%
Tenderer	100%	100%	100%

Model performance

Taiwan Flour Millers' Association purchased 99,200 MT of US milling wheat in a tender on Thursday, May 8.

The first 49,850 MT consignment has a freight charge of 32.49 \$/mt for ocean shipping from the US Pacific Northwest coast to Taiwan for July 5-18 shipment:

34,550 MT of DNS 14.5% at **294.11 \$/mt FOB** from Viterra

8,600 MT of HRW 12.5% at **254.16 \$/mt FOB** from United Grain Corporation

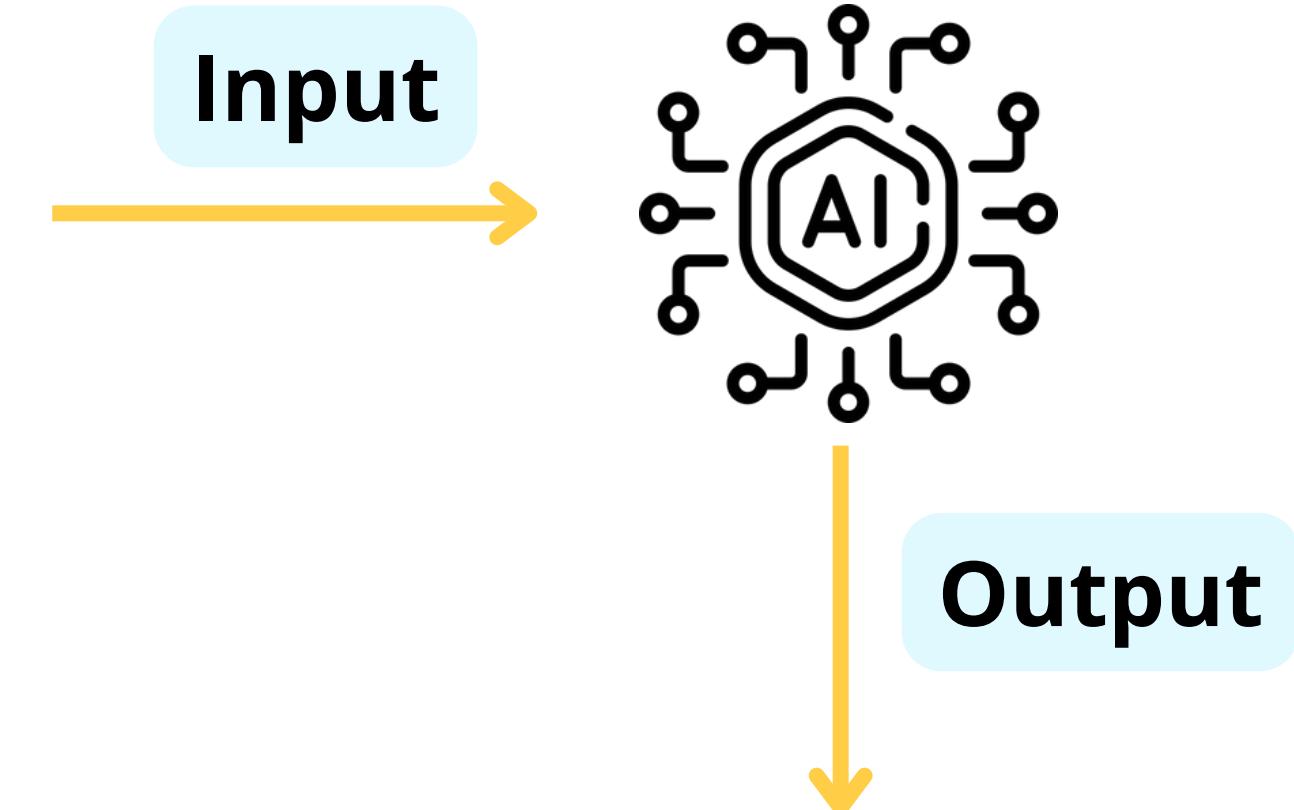
6,700 MT of SW 8.5-10% at **243.77 \$/mt FOB**

The second 49,350 MT consignment has a freight charge of 33.03 \$/mt for ocean shipping from the US Pacific Northwest coast to Taiwan for July 22-August 5 shipment:

34,100 MT of DNS 14.5% at **284.01 \$/mt FOB** from Bunge

9,350 MT of HRW 12.5% at **248.61 \$/mt FOB** from United Grain Corporation

5,900 MT of SW 8.5-10% at **244.58 \$/mt FOB** from United Grain Corporation



date	country	tenderer	product	quality	company	origin	delivery_start	delivery_end	quantity_kmt	price	currency	unit	delivery_term	Quote type
7 août 2025	Taiwan	Taiwan Flour M	wheat	DNS 14.5%	Viterra	US	5 juil. 2025	18 juil. 2025	34550	326.60	\$	MT	CNF	close
7 août 2025	Taiwan	Taiwan Flour M	wheat	HRW 12.5%	United Grain Corpor	US	5 juil. 2025	18 juil. 2025	8600	286.65	\$	MT	CNF	close
7 août 2025	Taiwan	Taiwan Flour M	wheat	SW 8.5-10%		US	5 juil. 2025	18 juil. 2025	6700	276.26	\$	MT	CNF	close
7 août 2025	Taiwan	Taiwan Flour M	wheat	DNS 14.5%	Bunge	US	22 juil. 2025	5 août 2025	34100	317.04	\$	MT	CNF	close
7 août 2025	Taiwan	Taiwan Flour M	wheat	HRW 12.5%	United Grain Corpor	US	22 juil. 2025	5 août 2025	9350	281.64	\$	MT	CNF	close
7 août 2025	Taiwan	Taiwan Flour M	wheat	SW 8.5-10%	United Grain Corpor	US	22 juil. 2025	5 août 2025	5900	277.61	\$	MT	CNF	close

Advantages

- This source is the first to publish tender data, sometimes up to 4-5 days ahead of other sources

Challenges

- Provides various information related to agriculture
- publishes diverse tender-related content
- Tender data is presented in an unstructured text format,

ProspexAgro Channel messages

DAILY TENDER DIGEST – MAY 28TH 📜

1 Algeria ONAB – Corn Tender 🌾

Up to 120K MT animal-feed corn, optional origins.
 Price-offer deadline: May 28.
 Previous tender: 80K MT, closed May 21, no deal.
 Origins now optional (not just Argentina/Brazil).
 Shipment: 3 lots, 30K-40K MT each, June 15-30.
 Thin May participation; port delays raised costs.

2 Iran SLAL – Animal-Feed Corn, Soymeal and Barley Tenders 🌾

Unknown volumes.
 Tenders date: May 26.
 Target 120K MT each.
 Est: up to 240K MT corn (4 × 60K), up to 240K MT soymeal (4 × 60K), about 180K MT barley (3 × 60K).
 Prices N/A.
 Shipment July–Aug.

Corn: Brazil, Europe, Russia, Ukraine, Black Sea incl. Turkey.
 Barley: EU, Russia, Ukraine, Black Sea incl. Turkey/Kazakhstan.
 Soybean: Brazil or Argentina.

Sanctions complicate payments.
 Payment via 2 banks (Iraq & Turkey).

3 Taiwan MFIG – Corn Tender 🌾

65K MT Brazilian yellow feed corn from CJ International.
 \$ 165.90¢/bu c&f over Chicago Dec 2025.
 Lowest U.S. offer: 175.00¢/bu (Agrex).
 Lowest Argentine offer: 180.45¢/bu (ADM) – accepted only if ≥4¢/bu below next.
 Offers: 7×U.S., 6×Brazil, 2×Argentina; none 🇨.

Shipment: Jul 21–Aug 9 (U.S. Gulf/Brazil/Argentina) or Aug 5–24 (PNW/S. Africa).
 Last tender Apr 29: 65K MT U.S. corn.

#DailyTenderDigest #TenderDigest #Tenders #Tender #Corn #Soymeal #Barley
 #AnimalFeed #Shipping #Algeria #Iran #Taiwan #Brazil #Argentina #Russia #Ukraine
 #Turkey #Kazakhstan #BlackSea #ONAB #SLAL #MFIG #CJInternational #Agrex #ADM

FORECAST: OIL WORLD

Global Oilseeds & VegOil 2024/25 Snapshot 🌎

According to Oil World:

Soybeans:
 Production: 418.4 Mt (+1.9 vs prev; +23.1 YoY).
 169 Mt (154.6) | 118.84 Mt (113.27) | 49 Mt (flat).
 Crush 350.73 Mt (330.31).
 Stocks 121.63 Mt (109.67).
 47.5 | 34.26 | 10.6.

Rapeseed/Canola:
 Production: 75.52 Mt (80.27).
 16.93 (20.17) | 3.73 (4.63) | 6.45 (6.57).
 Crush 77.2 Mt (+0.8 MoM; < 77.78 prev yr).
 24.45 Mt (-1.1).
 Stocks 11.64 Mt (-1.7 YoY, 3-yr low).
 3.22 Mt (-1.77).

Sunflower Oil:
 Demand under pressure → global use 22.1 Mt vs record 23.6 Mt (-1.5 Mt).
 #Oilseeds #VegOil #Soybeans #Rapeseed #Canola #SunflowerOil #OilWorld #Brazil #USA
 #Argentina #EU #Ukraine



28 11:30

Laisser un commentaire >

TENDER

Bangladesh – Wheat Tender 🌾

50K MT milling wheat (any origin; 🇮🇱 excluded).
 Offer deadline: June 22.
 CIF liner out (seller pays unloading).
 Ship 40 days post-award.

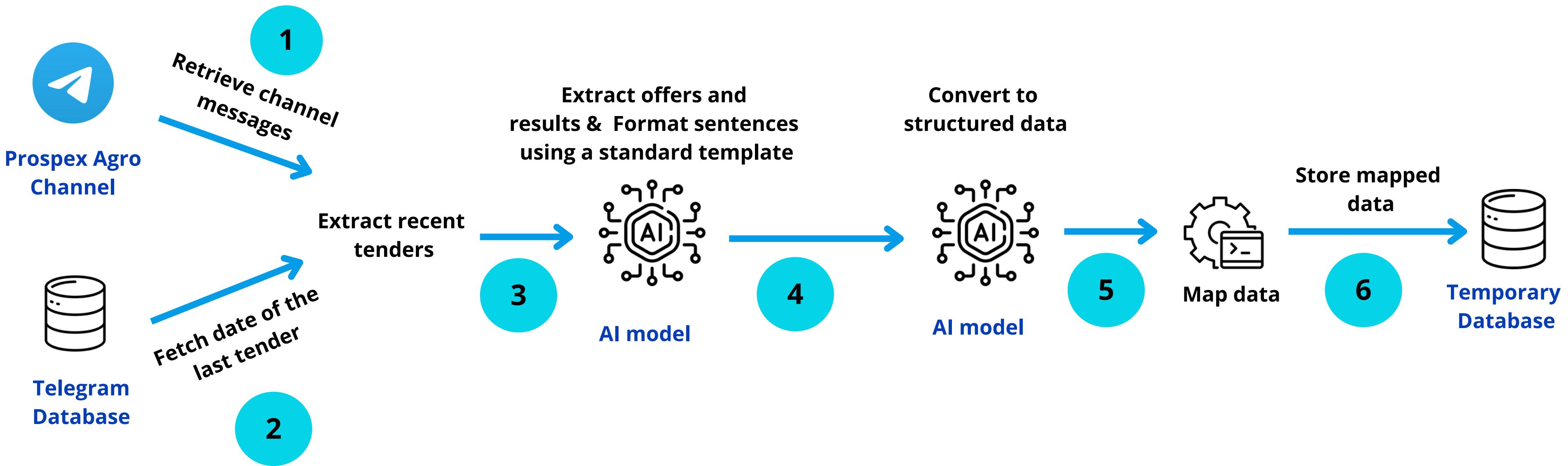
#Bangladesh #Israel #Wheat #MillingWheat #Tender #CIF #Shipping #GrainTrade



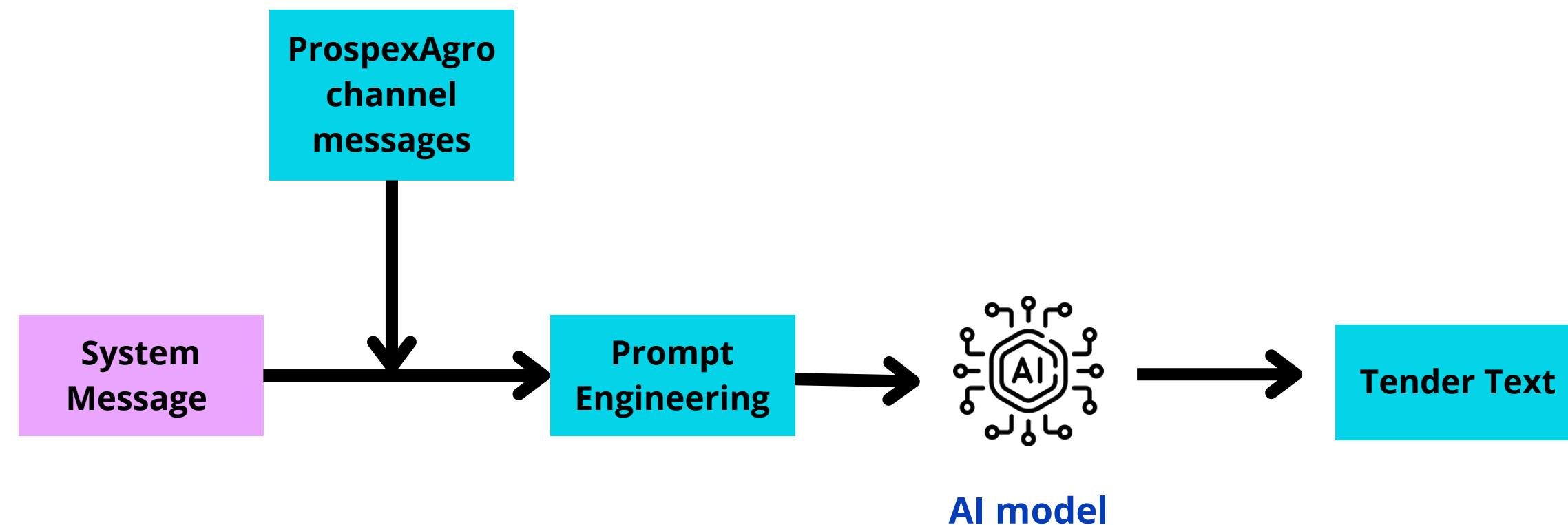
9 18:04

Laisser un commentaire >

ProspexAgro Workflow Architecture



Tender Text Extraction/reformulation Approach



MODELS PERFORMANCE

- 15 messages containing announcements, offers, and results simultaneously
- 10 messages containing only announcements
- 15 messages containing results or a combination of offers and results.

→ These 15 messages include a total of 35 tenders

Metric	Deepseek R1	Mistral Medium
Including sentences that indicate offers/results of tenders	99%	99%
Total information supposed to be mentioned in output text	95%	93%
Filtering out tenders announcement	100%	100%
Average speed of answer	20 seconds	5 seconds

Model performance

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- Target 120K MT each.
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 Soybean: Brazil or Argentina.

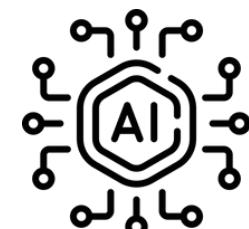
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- 65K MT Brazilian yellow feed corn from CJ International.
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- Lowest U.S. offer: 175.00¢/bu (Agrex).
- Lowest Argentine offer: 180.45¢/bu (ADM) – accepted only if ≥4¢/bu below next.
- Offers: 7×U.S., 6×Brazil, 2×Argentina; none 🇿🇦.
- Shipment: Jul 21–Aug 9 (U.S. Gulf/Brazil/Argentina) or Aug 5–24 (PNW/S. Africa).
- Last tender Apr 29: 65K MT U.S. corn.

#DailyTenderDigest #TenderDigest #Tenders #Tender #Corn #Soymeal #Barley
 #AnimalFeed #Shipping #Algeria #Iran #Taiwan #Brazil #Argentina #Russia #Ukraine
 #Turkey #Kazakhstan #BlackSea #ONAB #SLAL #MFIG #CJInternational #Agrex #ADM

Input



Output

- Iran's SLAL purchased about 120K MT animal-feed corn on May 26.

- 60K MT animal-feed corn from Brazil
- 60K MT animal-feed corn from Europe
- 60K MT animal-feed corn from Russia
- 60K MT animal-feed corn from Ukraine

- Iran's SLAL purchased about 120K MT soymeal on May 26.

- 60K MT soymeal from Brazil
- 60K MT soymeal from Argentina

- Iran's SLAL purchased about 180K MT barley on May 26.

- 60K MT barley from EU
- 60K MT barley from Russia
- 60K MT barley from Ukraine

Taiwan's MFIG purchased about 65K MT Brazilian yellow feed corn from CJ International at 165.90¢/bu c&f over Chicago Dec 2025 for July 21–Aug 9 shipment.

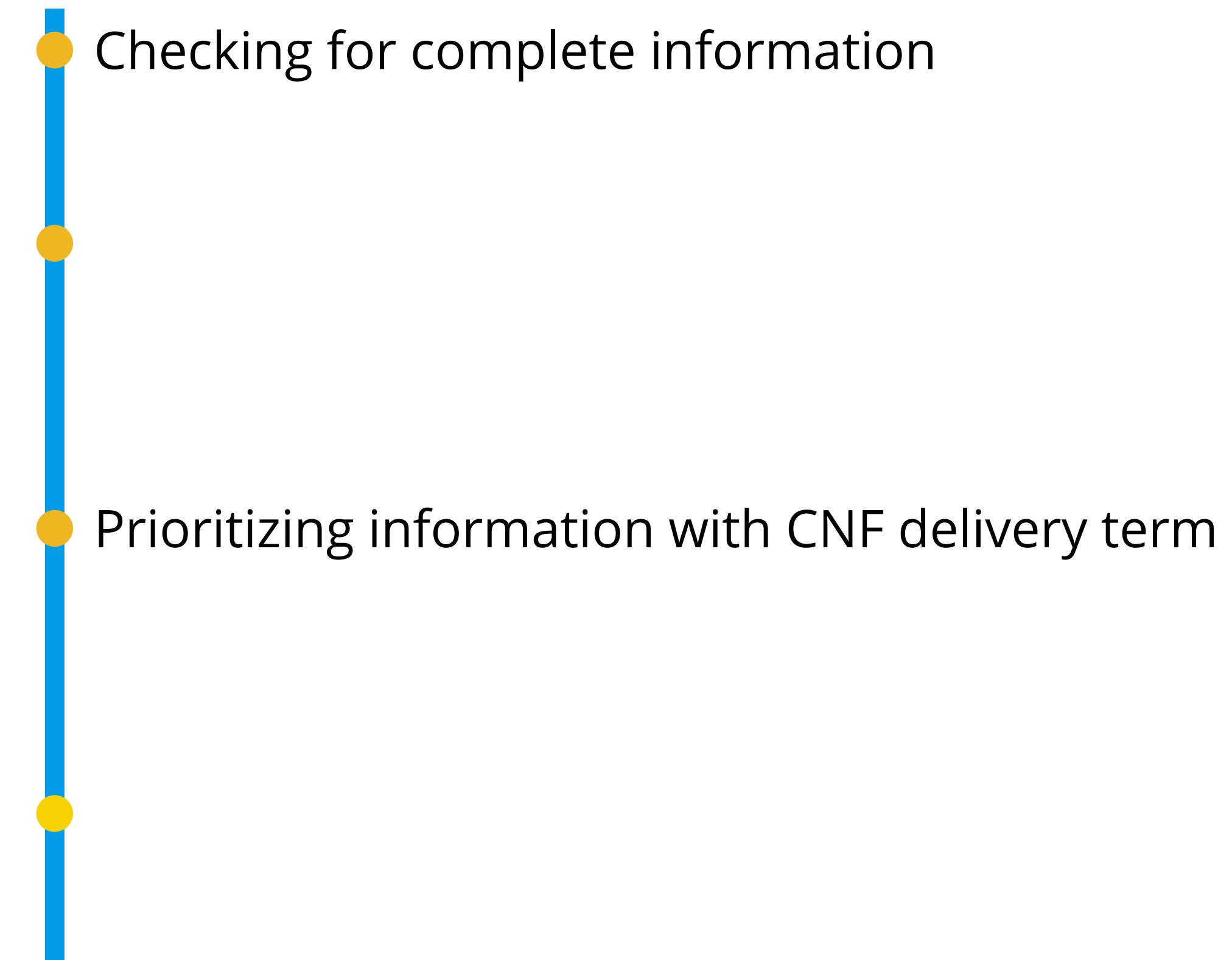
- Other trading houses participated in the tender with their offers:
- 65K MT Brazilian yellow feed corn from Agrex at 175.00¢/bu
- 65K MT Brazilian yellow feed corn from ADM at 180.45¢/bu



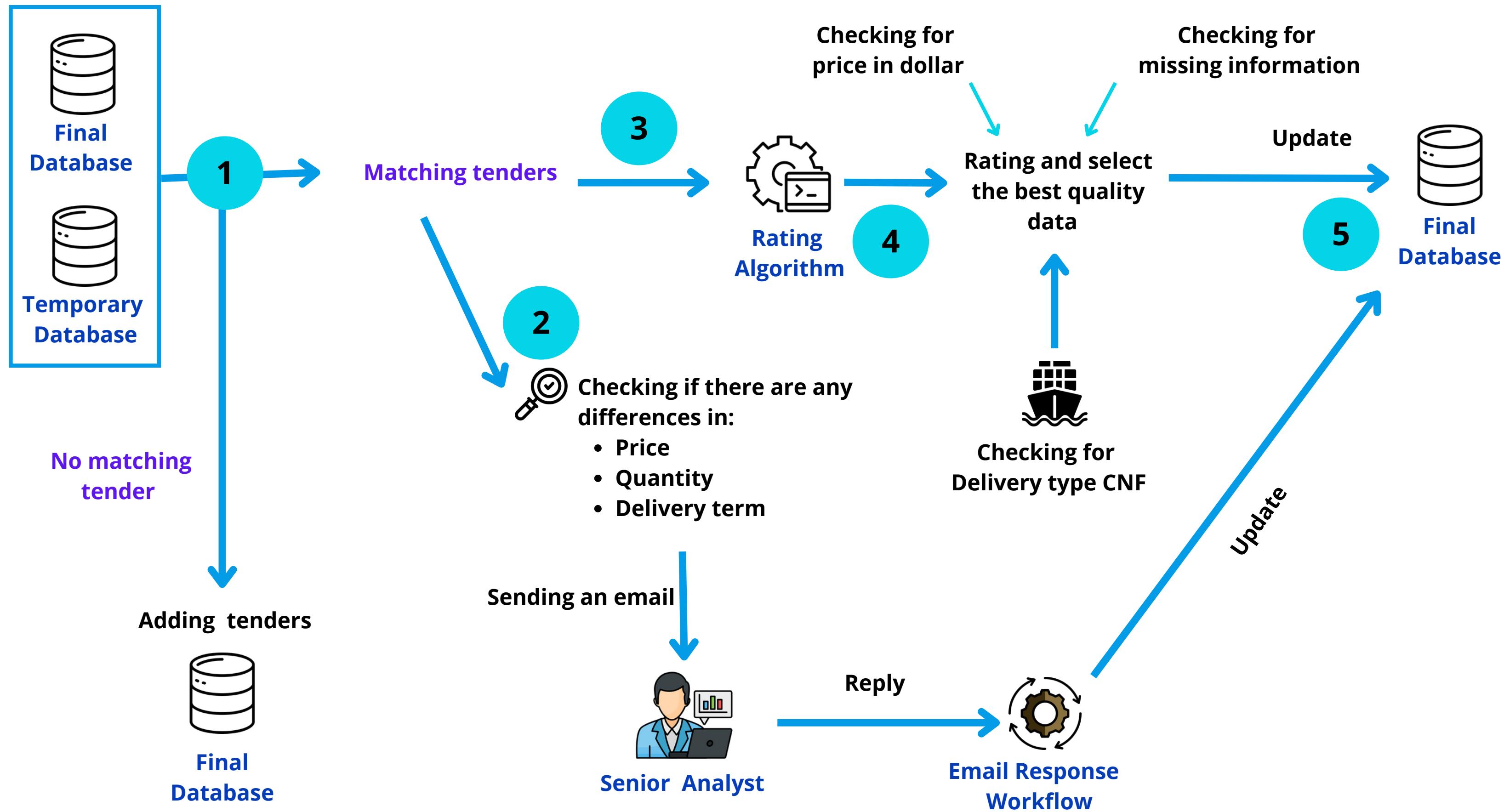
**Implement a data quality
workflow**

KEY CHECKS IN DATA QUALITY WORKFLOW

Verifying price, delivery end, and quantity



Data Quality Workflow Architecture



AUTO-DETECTING DECISIONS FROM REPLIES

Dear Pablo

I hope this message finds you well.

The table below presents the same tender received from various sources, with differences in the Price:

Price Differences

The percentage of similarity between these two tenders is: 99.84%

Index	date	country	tenderer	product	quality	company	origin	delivery_start	delivery_end	quantity	price	currency	unit	delivery_term	Quote_type	creation_date
1	05/28/2025	taiwan	MFIG	CRN	feed	CJIA	BRA	07/21/2025	08/09/2025	65000	241.0	\$	MT	CNF	close	2025-05-29
2	05/28/2025	taiwan	MFIG	CRN	feed	CJIA	BRA	07/21/2025	08/09/2025	65000	250.0	\$	MT	CNF	close	2025-05-28

Which option should I choose?

Option 1 : 1.

Option 2 : 2.

Option 3 : No.

Note :

1: Update the tender with index 1.

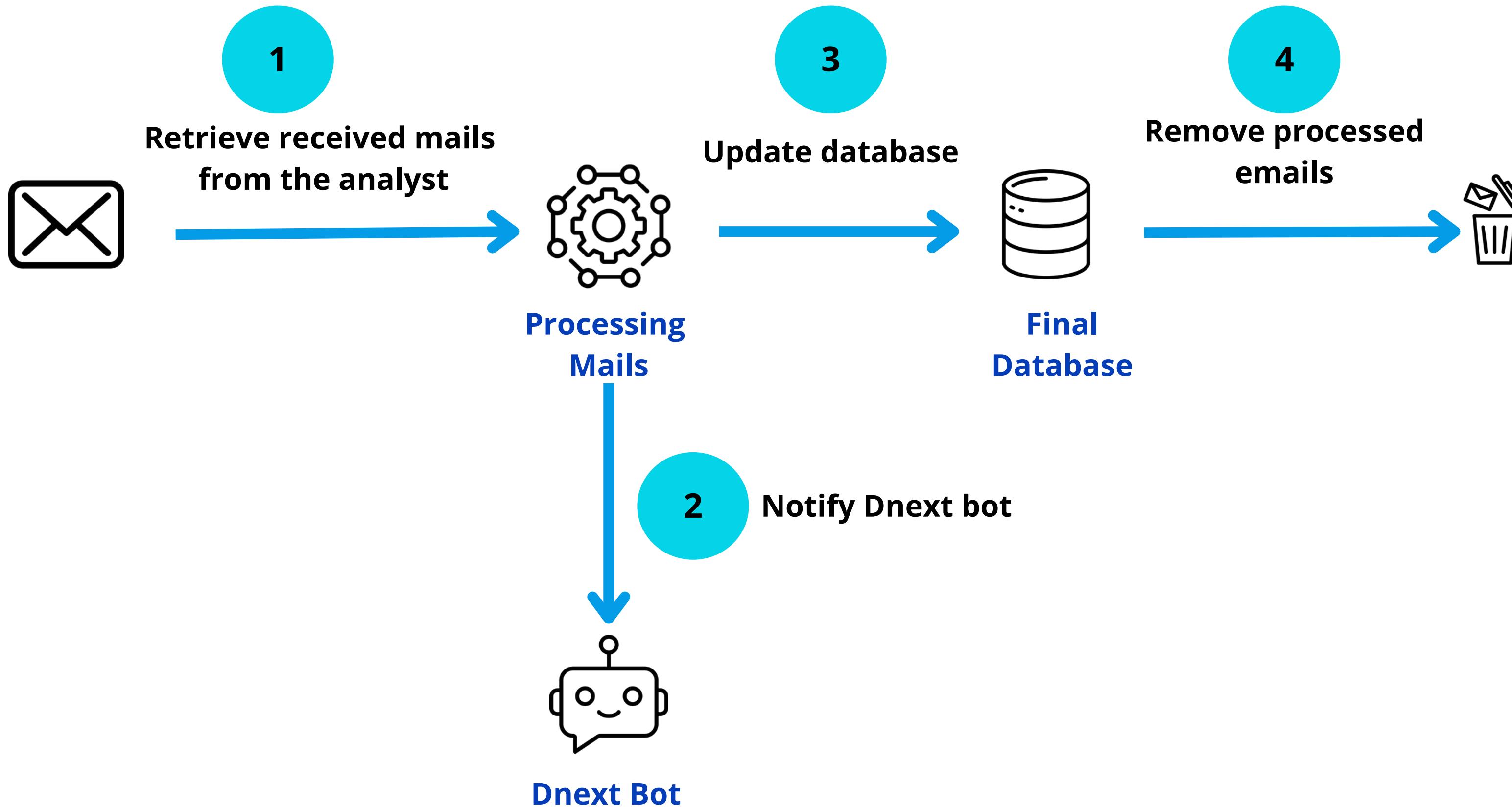
2: Update the tender with index 2.

No: Save both tenders because they are not the same.

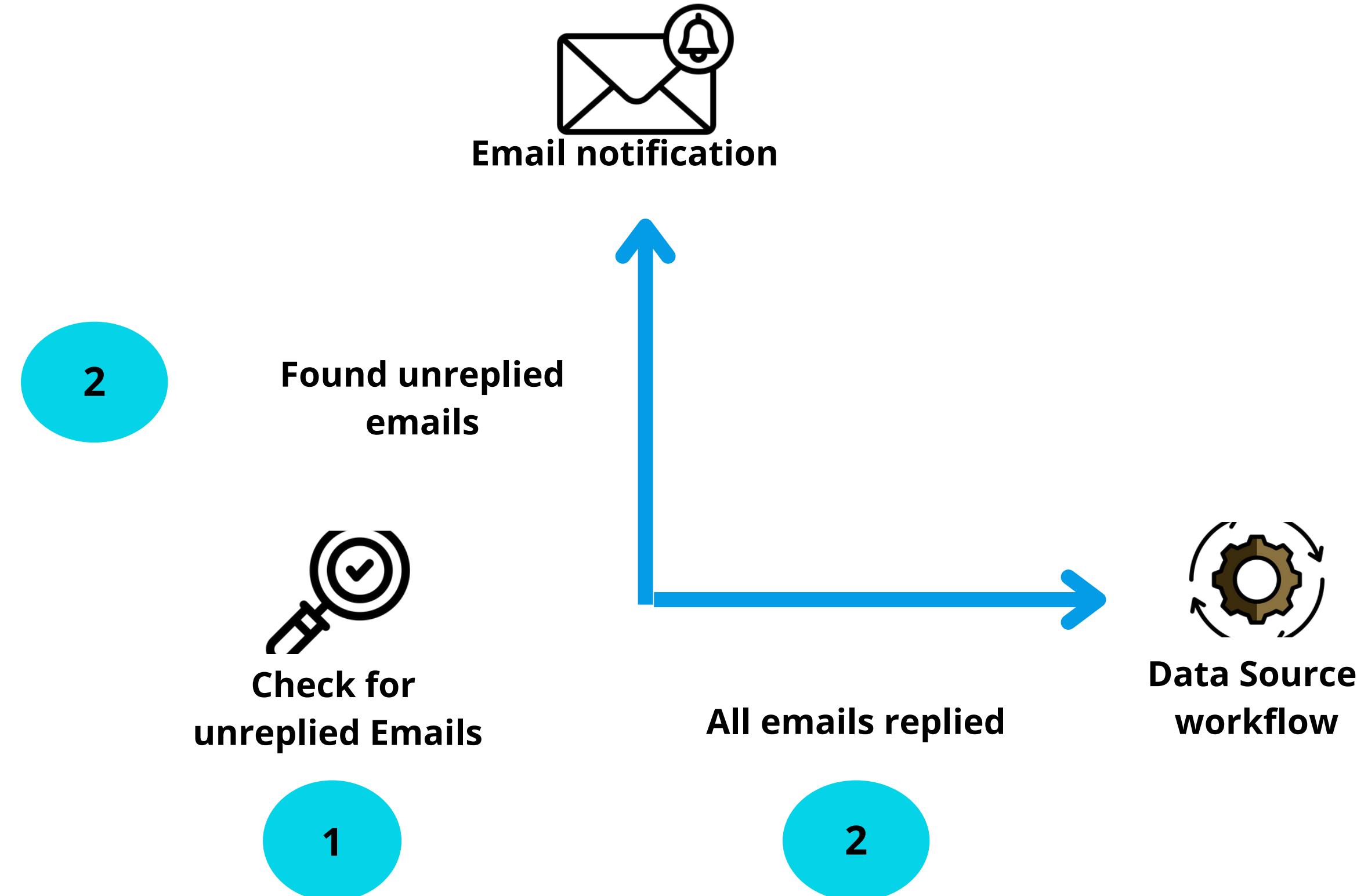
Please let me know which tender I should choose.

Best regards.

PROCESSING ANALYST DECISION



IMPROVEMENTS IN DATA SOURCES WORKFLOWS





**Deployment and
visualisation**

WORKFLOW MONITORING AND MANAGEMENT

- AgroChart workflow runs twice daily at 11:00 AM and 4:00 PM.
- Prospex workflow runs twice daily at 11:30 AM and 3:30 PM.
- PDF Report workflow runs once a week, every Monday at 11:00 AM.
- Data Quality workflow is triggered whenever one of the data source workflows is executed.
- Analyst Decision workflow runs every two hours throughout the day.



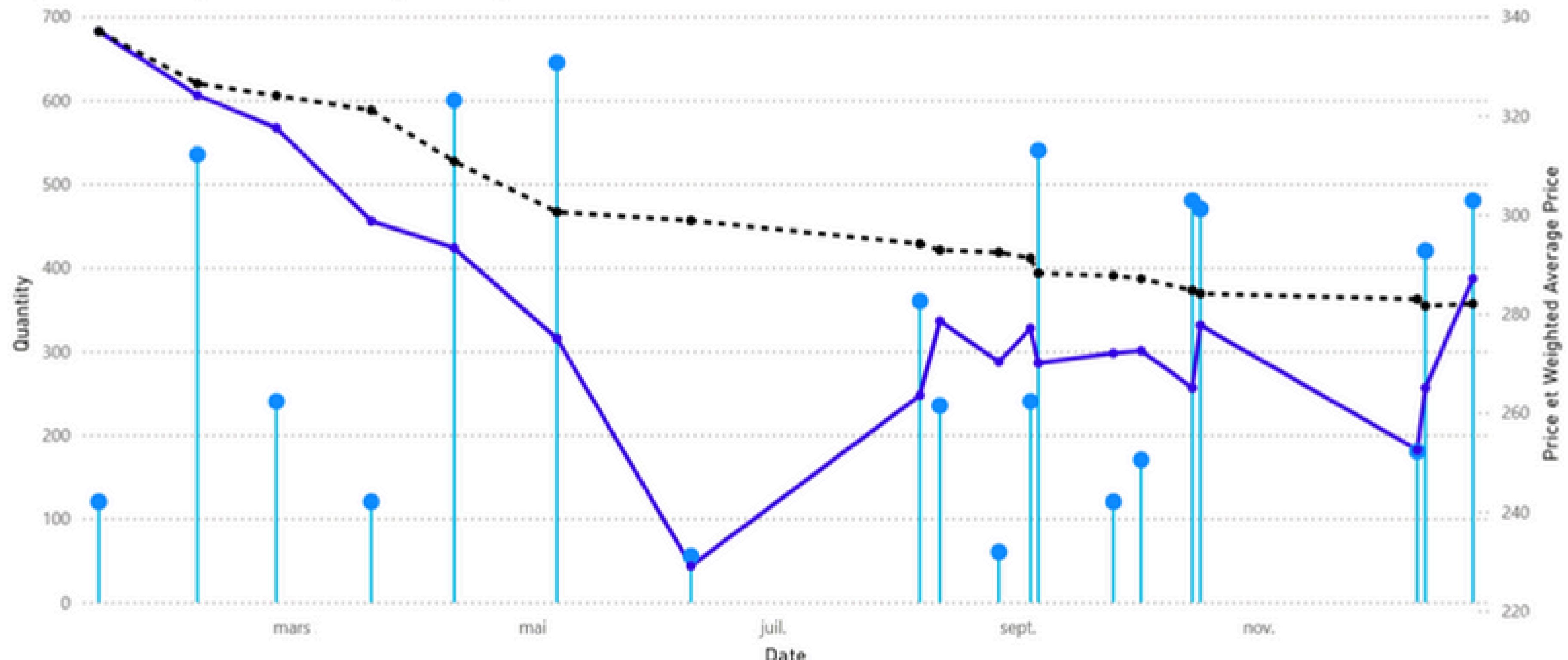
Power BI Report



CASE STUDY: ANALYSIS OF EGYPT'S SOFT WHEAT PURCHASING STRATEGIES

Egypt Soft Wheat Purchase history for the crop year 2023

Legend • Quantity — Price - ● Weighted Average Price





CASE STUDY: ANALYSIS OF EGYPT'S SOFT WHEAT PURCHASING STRATEGIES

Month	Quantity	Unit Price	Total
May	645.000	247,98	159.947.100
June	55.000	229	12.595.000
Sum			172.542.100

11.198.200 \$

=

Month	Quantity	Unit Price	Total
May	55.000	247,98	13.638.900
June	645.000	229	147.705.000
Sum			161.343.900

557,184,388 EGP

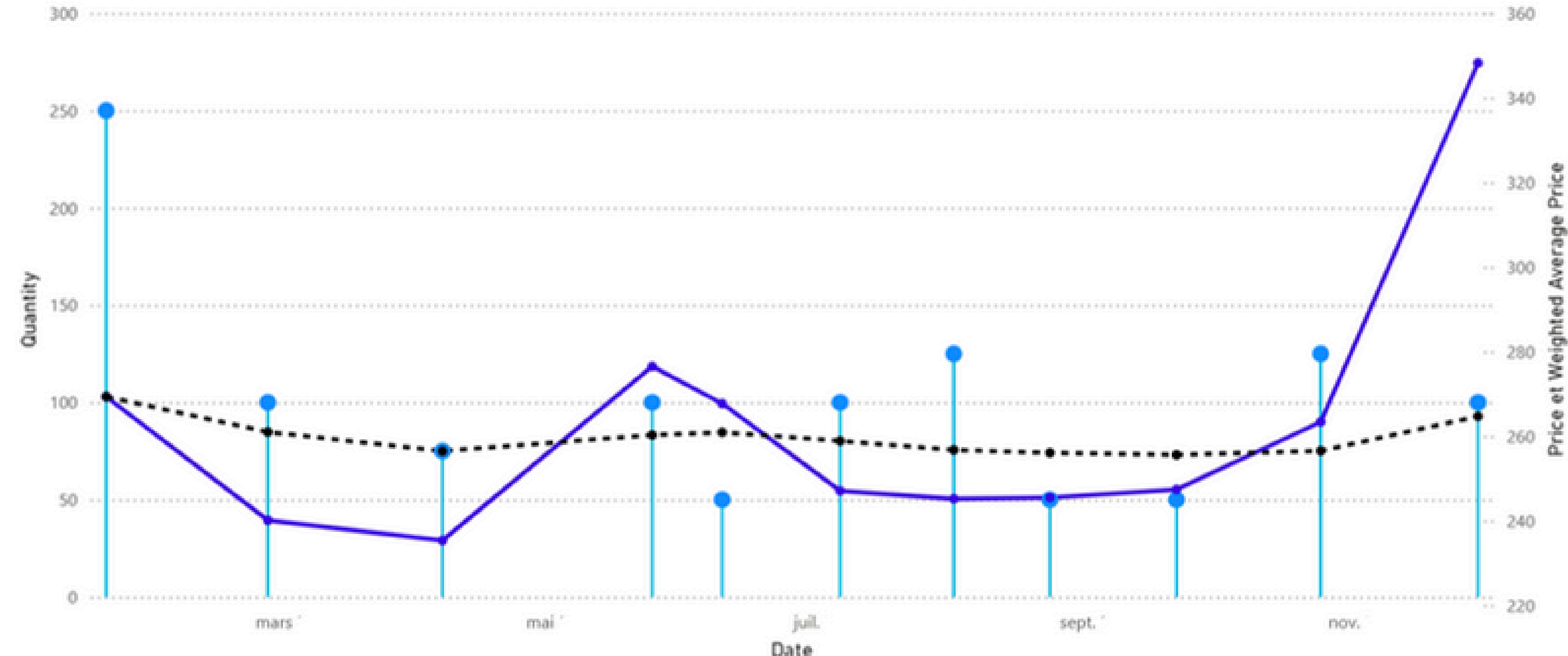




CASE STUDY: ANALYSIS OF TUNISIA'S SOFT WHEAT PURCHASING STRATEGIES

Tunisia Soft Wheat Purchase history for the crop year 2024

Legend • Quantity — Price - · Weighted Average Price





CONCLUSION

CONCLUSION & PERSPECTIVES



**THANK YOU FOR YOUR
ATTENTION**

Appendix

TENDER MATCHING

Field	Weight (wf)	Field	Weight (wf)
Date	0	Delivery End	1
Country	4	Quantity	1
Tenderer	4	Price	1
Product	4	Currency	0
Quality	1	Unit	0
Company	1	Delivery Term	1.5
Origin	1	Quote Type	2
Delivery Start	1		

$$\text{Sim}(T^{(1)}, T^{(2)}) = \frac{\sum_f w_f \text{sim}_f(T^{(1)}, T^{(2)})}{\sum_f w_f}$$

$\theta = 85\%$ $\text{Sim}(T^{(1)}, T^{(2)}) \geq \theta$

RATING ALGORITHM

● Required score

- Required Fields Check: date, country, product , price, delivery end, quantity and delivery term.
- All required fields are present → The score is **7**
- If at least one required field is missing → The score is **0**

● Non-required score

- Non-Required Fields Scoring: Each non-required field we contribute to adds 1 point to the non-required score

● Duplicate Value

- Subtracts 1 point

FinalScore = RequiredScore + NonRequiredScore – DuplicatePenalty