

ALCL AI Business Use Case Exploration

Overview

In the modern logistics agency industry, AI technology can greatly improve efficiency and quality in pre-sales, sales, booking, shipment, and after-shipment stages. The following are the analysis which use AI technology to solve logistics agency business problems in brief.

Pain Points

1. **Inefficient Sales Process:** Manual sales process, lack of data analysis, and limited customer insights lead to slow conversion rates and missed opportunities.
2. **Suboptimal Transportation Planning:** Manual planning and lack of real-time data analysis result in inefficient transportation routes, delays, and increased costs.
3. **Limited Visibility into Shipments:** Insufficient tracking and monitoring systems lead to lost shipments, delayed deliveries, and decreased customer satisfaction.
4. **High Data Entry Burden:** Manual data entry and processing lead to errors, inefficiencies, and wasted time.
5. **Difficulty in Predicting Demand:** Lack of historical data and predictive analytics makes it challenging to forecast demand and plan resources accordingly.

AI Solutions

1. **Automated Sales Process:** AI-powered chatbots and virtual assistants can handle customer inquiries, provide real-time quotes, and guide customers through the booking process.
2. **Intelligent Transportation Planning:** AI engine analyzes historical data, traffic patterns, and weather forecasts to optimize transportation routes, reduce delays, and lower costs.
3. **Real-time Shipment Tracking:** IoT sensors and GPS tracking enable real-time monitoring of shipments, advanced milestone monitoring and forecast the tracking estimations.
4. **Automated Data Entry:** AI-powered data entry tools can extract and process data from various sources, reducing manual errors and increasing efficiency.
5. **Predictive Demand Analysis:** Machine learning algorithms analyze historical data, market trends, and seasonality to predict demand and help logistics agencies plan resources

accordingly.

Business Value

1. **Increased Conversion Rates:** Automated sales process and real-time quotes can lead to higher conversion rates and increased revenue.
2. **Reduced Transportation Costs:** AI-optimized transportation planning and real-time tracking can result in cost savings and improved efficiency.
3. **Improved Customer Satisfaction:** Real-time shipment tracking and proactive communication can lead to increased customer satisfaction and loyalty.
4. **Increased Efficiency:** Automated data entry and predictive demand analysis can reduce manual errors, increase productivity, and improve resource allocation.
5. **Competitive Advantage:** Logistics agencies that adopt AI-powered solutions can differentiate themselves from competitors and establish a market leadership position.

[Above is only the brief points which AI solution can benefits our business models. In the next session, we will deep dive into our current ALCL business as one example to explore more AI usages](#)

Business Exploration

In this section, I will split the ALCL business process model into below 5 stages to dig the requirements one by one.

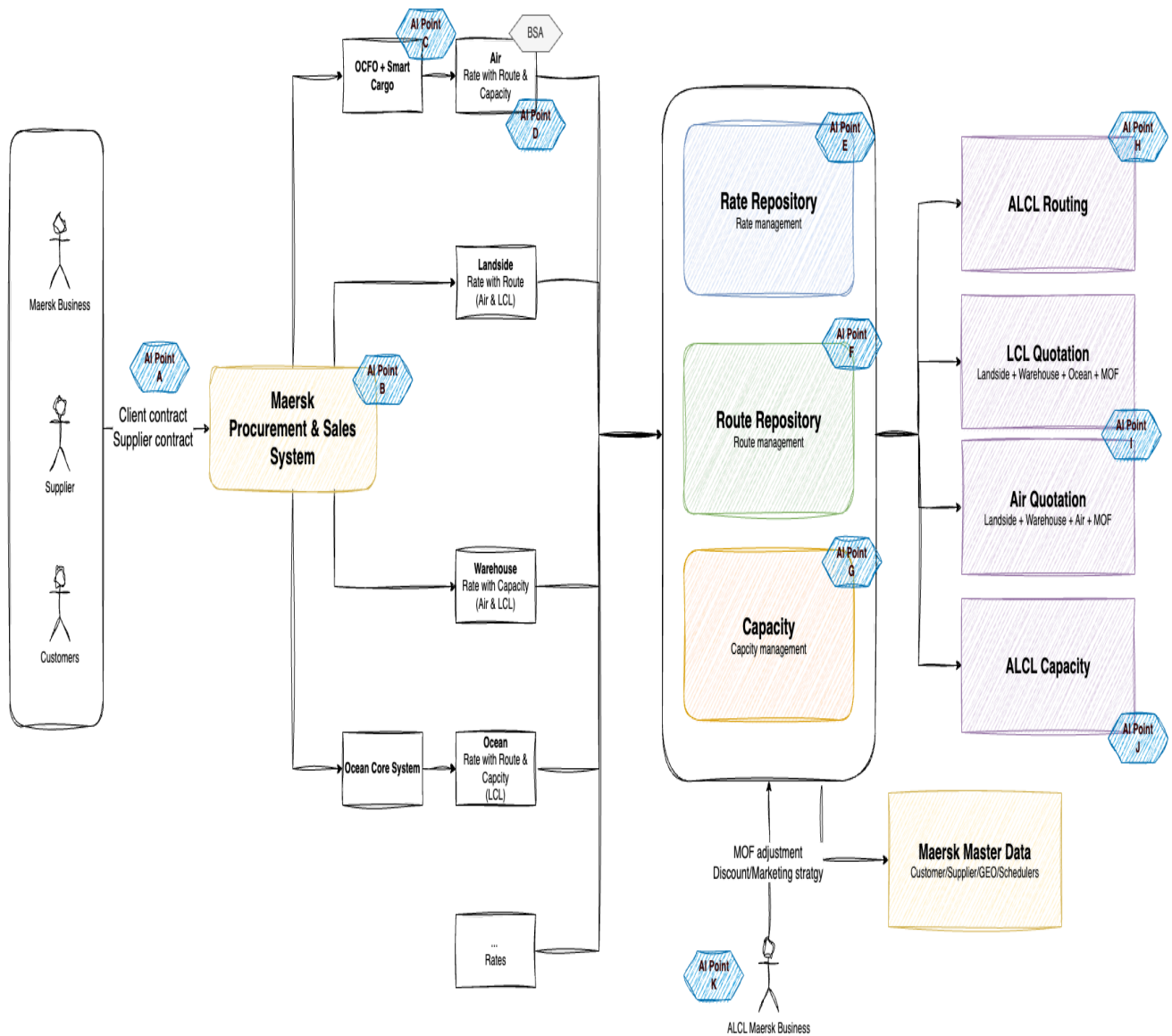
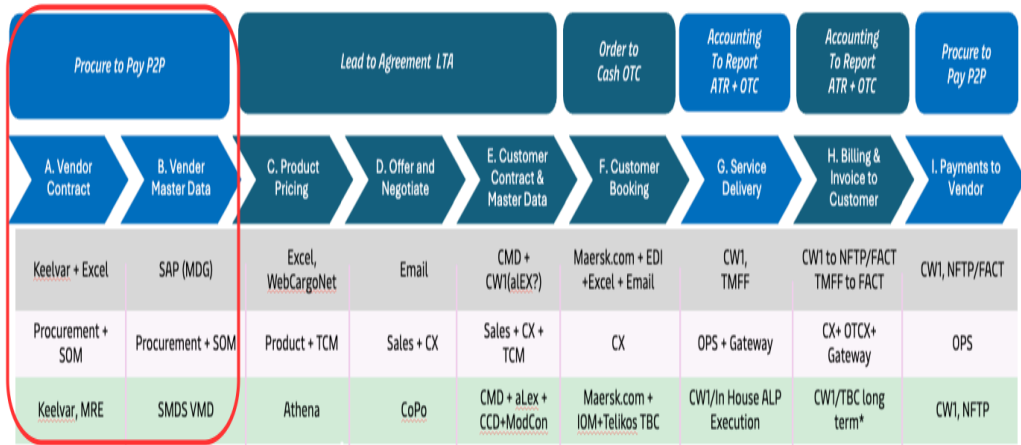
1. Pre-sales phase
2. Sales phase
3. Booking confirmation phase
4. Shipment phase
5. After shipment phase

Pre-sales Phase

Pre-sales stage are more focusing on the rate/route/quotation management, based on customer/supplier contract, it will impact the full cost/profit control as source master data.

Brief System Interactions

1. Pre-Sales Phase



System design diagram above is only assumption for the future integration, not as-is flow

AI Points

AI Point Tag	AI Usecase	Business Value
AI Point A - Supplier Contrant	Supplier Contract AI Validator , any kinds of the contract to check whether any duplicate or violation of Maersk rules or regulations	<ol style="list-style-type: none"> 1. Reduce business risk 2. Avoid duplicate procurement from supplier
AI Point A - Customer Contrant	Client Contract AI Validator , any kinds of pre-contract reading to find out the business loss risk if the client rate to customer is low or negative	<ol style="list-style-type: none"> 1. Reduce the risk if we have some lower margin case will happen 2. Speed up the contract read and help business team to give a reasonable client rate
AI Point B - Procurement	AI Rate Convertor from contract/margin doc to excel file which fianlly input to Athena or other rate engines	<ol style="list-style-type: none"> 1. Reduce the time which business team convert the document to data 2. Reduce the error rate when they do the document conversion
AI Point C - OCFO	AI Flight Planner : OCFO Air route & scheduler & capacity setup in system by historical Air business and strategy rules for air business	
AI Point D - OCFO Rate	Flight Stratgy AI Agent : OCFO Air BSA pricing strategy to internal/external clients	
AI Point E - Rate Repo	<p>Rate Upload AI Agent: One click to create/update rate information from contract to different product's rate engine</p> <p>AI Rate Simulator: For different business manager to easy conduct and setup MOF or other information</p> <p>AI Rate Analyer: rate change history to auto suggest new procurement plan based on the profit rates compares the real data which happens daily</p>	

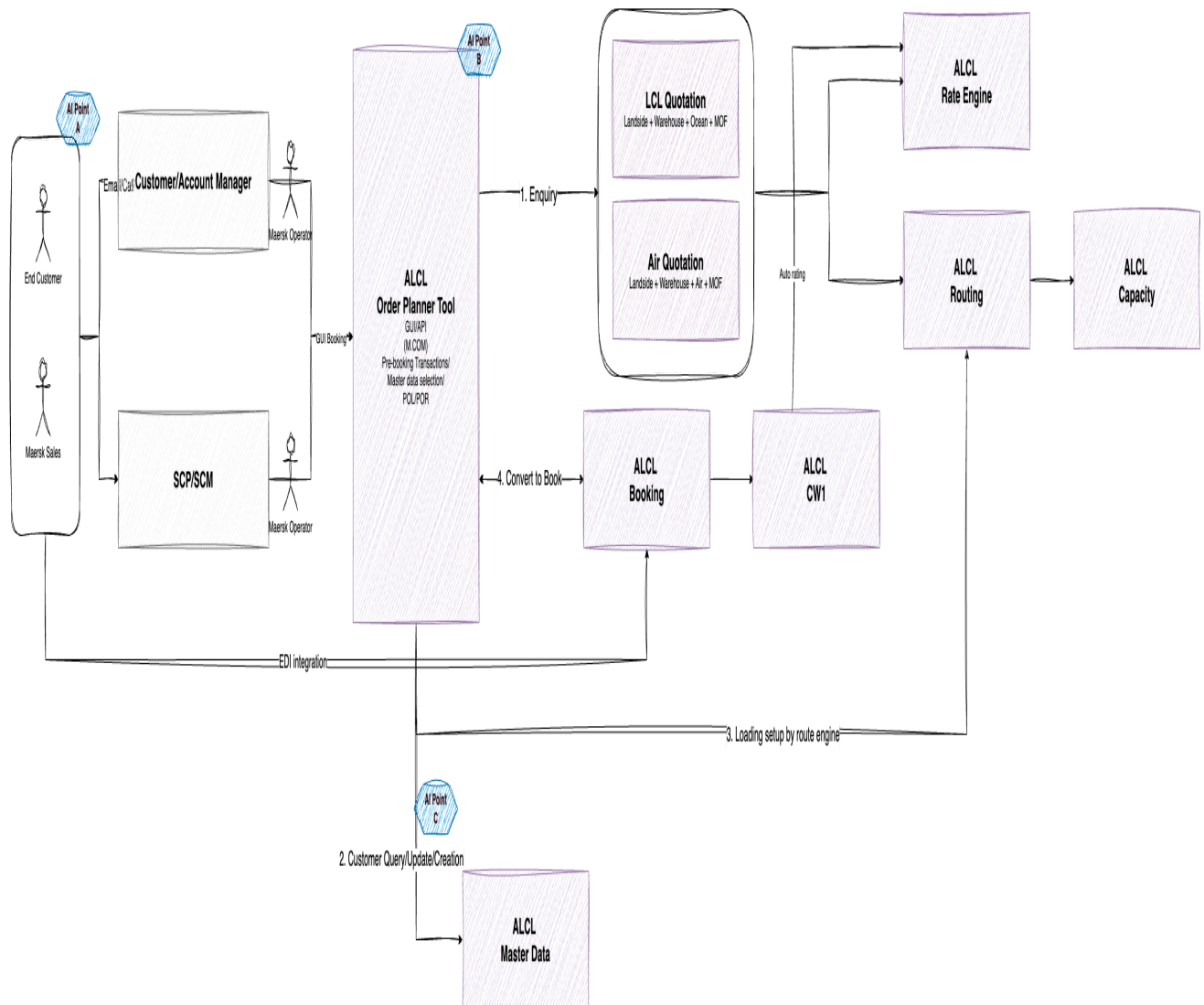
AI Point F - Route Engine	<p>AI Route Creator: One click to create/update route information</p> <p>AI Carrier Ranking: That based transit time, cost, carrier capability</p>	
AI Point G - Capacity	AI Capacity Allocator: For different business product based on the full capacity plan	
AI Point H - ALCL Route planner	<p>AI Route Simulator to identify more profitable possibility for new warehouse location/new lanes based on the historical data or self definition data</p> <p>ALCL Route Planner AI Agent to expose for AI workflow</p>	
AI Point I - ALCL Quotation	ALCL Quotation AI Agent to expose for AI workflow	
AI Point J - ALCL Capacity	<p>ALCL Capacity AI Agent to expose for AI workflow</p> <p>Capacity Allocator AI Agent for consol creation plan, based on the capacity contract, will automatically create the consol or suggestion</p>	
AI Point K - ALCL Business Operator	Sell Rate AI Agent: Upload MOF by prompt instructions like by different marketing strategy, e.g, “I want to give a marketing raise in CN export to NL start from Jan 1st 2025 to May 1st 2025, please adjust the rate to meet a revenue at least increase 5% per CBM“, system will generate the ALCL rate with new MOF with start date and expiration date.	

Sales Phase

Brief System Interactions

2. Sales Phase

Procure to Pay P2P		Lead to Agreement LTA		Order to Cash OTC		Accounting To Report ATR + OTC		Accounting To Report ATR + OTC		Procure to Pay P2P	
A. Vendor Contract	B. Vendor Master Data	C. Product Pricing	D. Offer and Negotiate	E. Customer Contract & Master Data	F. Customer Booking	G. Service Delivery	H. Billing & Invoice to Customer	I. Payments to Vendor			
Keelvar + Excel	SAP (MDG)	Excel, WebCargoNet	Email	CMD + CWI(aLex?)	Maersk.com + EDI + Excel + Email	CW1, TMFF	CW1 to NFTP/FACT TMFF to FACT		CW1, NFTP/FACT		
Procurement + SOM	Procurement + SOM	Product + TCM	Sales + CX	Sales + CX + TCM	CX	OPS + Gateway	CX+ OTCX+ Gateway		OPS		
Keelvar, MRE	SMDS VMD	Athena	CoPo	CMD + aLex + CCD+ModCon	Maersk.com + IDI+Talkos TBC	CW1/In House ALP Execution		CW1/TBC long term*		CW1, NFTP	



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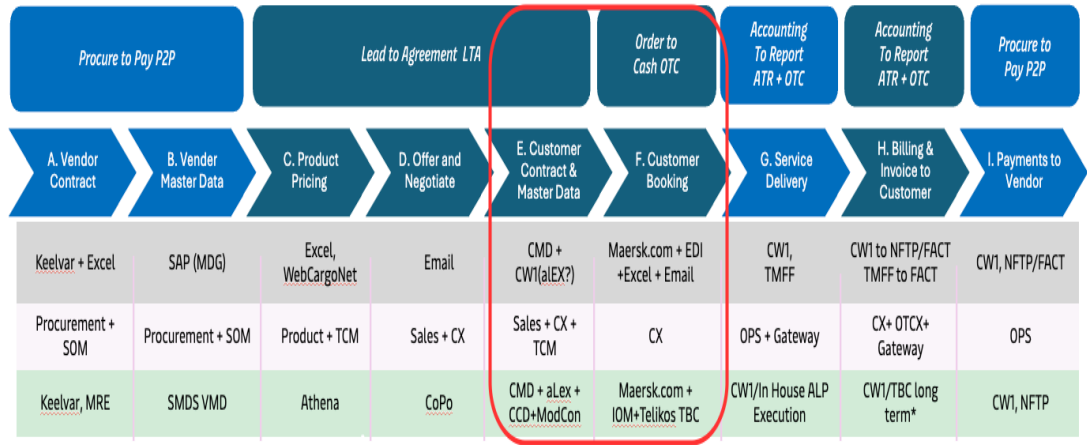
AI Points

AI Point Tag	AI Usecase	Business Value
AI Point A - Sales Connection	<p>Sales Agent/CX AI Agent, we can provide the AI solutions to different marketing customers</p> <ul style="list-style-type: none"> • External Big Co-loader: AI Order Planner arrangement, e.g. “I have below 10 cargo from different pickup and delivery address with detailed cargo info, please help to bulk arrange the route and give me the final booking confirmation document to me“ • External E-commercial platform: AI integrate to be a supplier seller at those platform and provide the basic AI API integration to answer multiple end customers' freight forwarding questions • Big Client with Maersk like Nike/Tesla: AI auto filling and Q & A assistant in GUI or AI Voice to connect with them to create the booking • Other small business opportunities: Public Maersk AI agent to collect necessary info to do quotation enquiry, routing, milestone,shipment basic query <p>After Service AI Agent: Return visit with end customers to collecting the feedback</p> <p>Sales Orga AI Agent: Generate contract for new customers or new contract to refresh old ones to real time create/update customers into CMD and AR extensions by demands</p>	
AI Point B - Order Planner Tool	<p>Consol Optimizer AI Agent: Order arrangements for consol optimization/container load plan/booking assignment by asking, “Please help to create the consol and binding the bookings according to the request from different</p>	

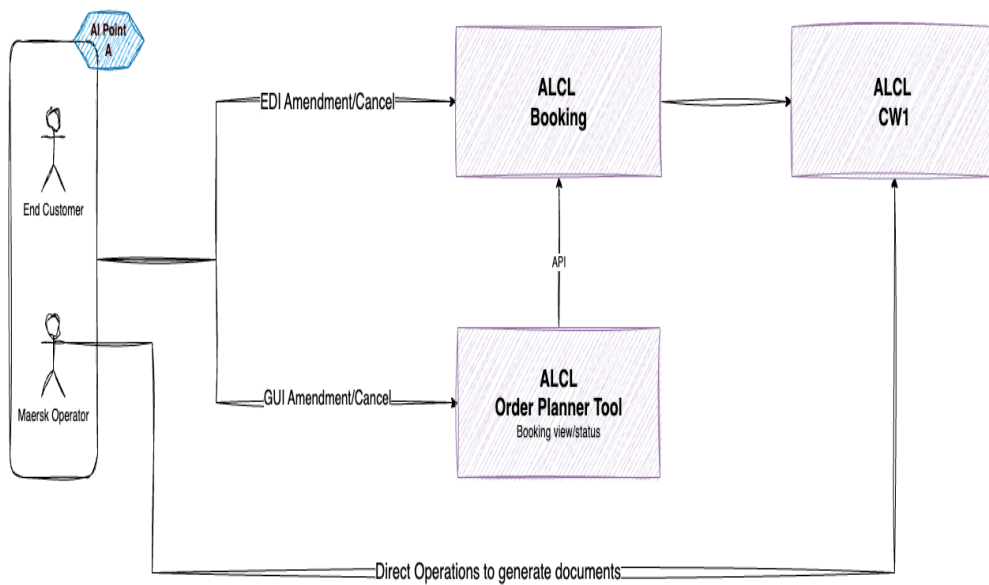
	customers, if the profit rate is lower than 5% please mark it red and not auto create that...”	
AI Point C - ALCL Master Data	Master Data Handler AI Agent: AI Master data selection if the master data is matching with from pre-booking request, for example shipper/consignee. Or create new one based on the contract or other information which colleagues collected	

Booking Confirmation Phase

Brief System Interactions



3. Booking Confirmation Phase



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AI Points

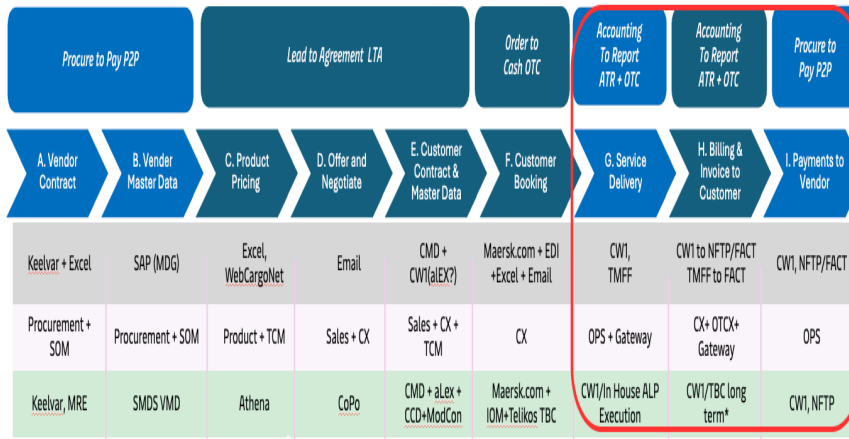
AI Point Tag	AI Usecase	Business Value
AI Point A - Booking Information Collecting	Booking Assistant AI Agent: We will have a AI Bot actively talking with our end customers: <ol style="list-style-type: none"> Customer using the prompt to update/cancel the booking, fetch the booking and generate 	

	<p>the new quotation pdf which new changes which will impact the charge lines</p>	
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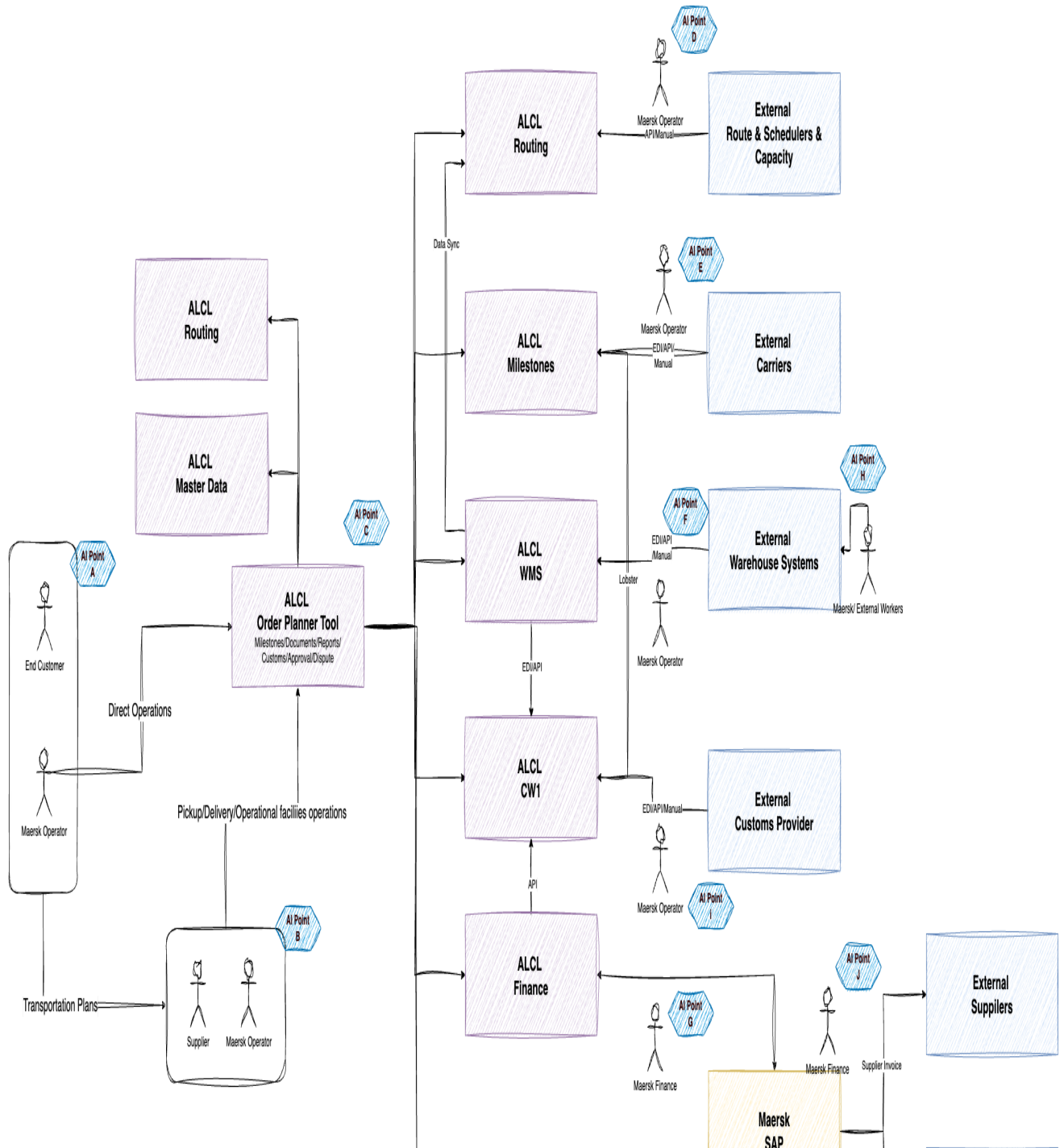
2. AI will actively to response to end customer if
we have booking confirmed and asking
whether the cargo is ready according to the
agreement in the quotation T&C

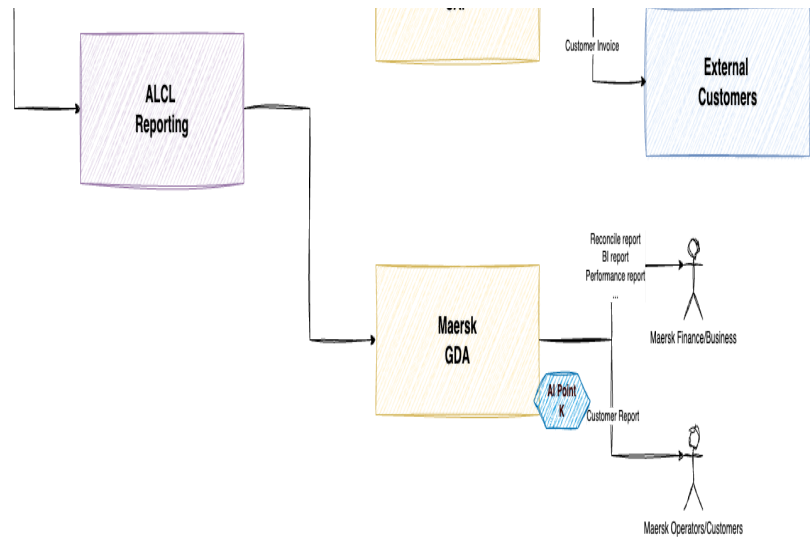
Shipment Phase

Brief System Interactions



4. Shipment Phase





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AI Points

AI Point Tag	AI Usecase	Business Value
AI Point A - Shipment communication	ALCL Transaction AI Agent: Regarding the chatbot, it will provide below question types: <ol style="list-style-type: none"> 1. "Please show me all the transactions which I created in system and not closed" 2. "Please give me the transportation route for my HBL NO. 123456" 3. "Please give me the latest milestone of HBL NO. 123456" 4. "Please give me the historical invoice and detail amounts" 5. "I need a claim for my HBL NO. 123456 and I do not accept the shipping transit time..." 6. etc... 	
AI Point B - Transportation Plan	Supplier Booking AI Agent: This agent will help operators to book the space or capacity based on the real requirement or some pre-setup conditions inside AI agent. Even from email to supplier, service call to supplier and log back to system	

AI Point C - Shipment Modification	Order Planer AI Agent: Prompt FF system like CW1 capabilities, using word to create the booking or shipment, it will connect with different sub systems to fulfill the different tasks	
AI Point D - Routing Mangement	Dynamic Routing AI Weaver: Based on the webhook or document upload, which third party or operators directly feeding the ad-hoc route solution with scheduler/capacity into route management, AI will anaysis the input data and weave into the route engine for ad-hoc search (Especially in Air business this is quite adhoc). For real statement: "I have a new lane from CN shanghai to DE Hamberger with rate \$200 per KG which can flight at today 6pm, feed into the data and please help to update all not settled consol, send to X to approve this"	
AI Point E - Carrier/Suppi ler Milestone EDI	Supplier Milestone AI Agent: it will have two way communication to gain the supplier milestones <ol style="list-style-type: none"> 1. From Maersk to third party, AI Agent will actively collect through sending EMAIL, or call their service to gain the data 2. From third prity to Maersk, AI Agent will collect from webhook, manual upload file to fetch the data and feeding to system 	
AI Point F - Warehouse EDI	Cargo Arrangement AI Agent: It have below prompt cases as below: AI to Warehouse workers: <ol style="list-style-type: none"> 1. Please ask warehouse worker to take a picture of HBL. 12345 and tell me the detail size of that, please ping me when he finished the work 2. Please let worker to adjust cargo from HBL. 11234 which now in the container A to add additional pack to protect that since that's fragile. Please send the pic to system after done that 	

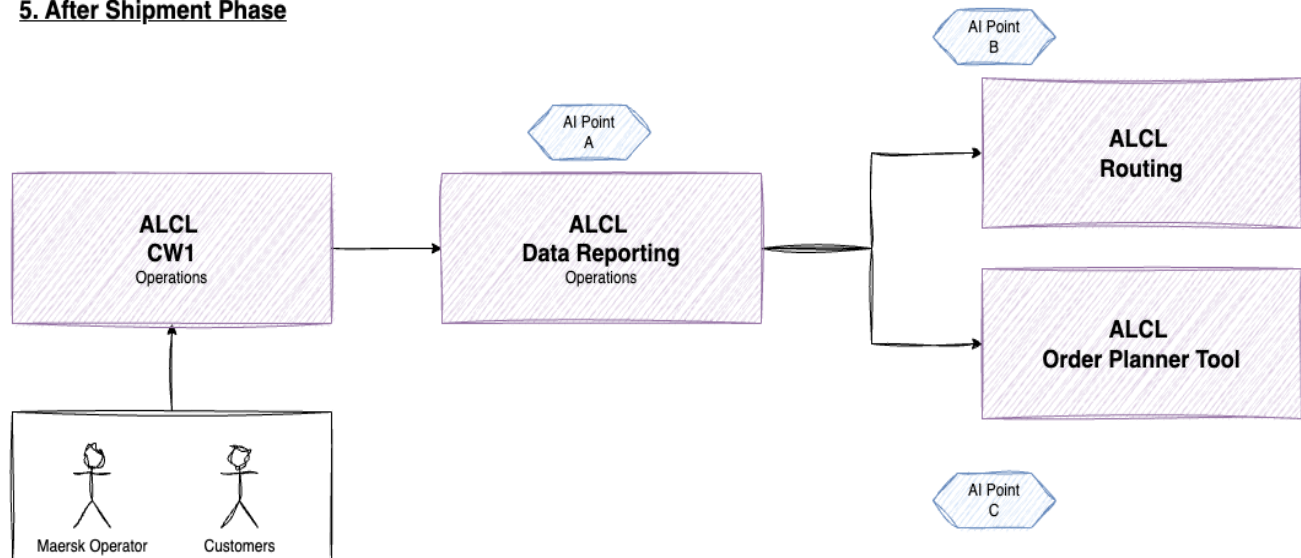
	<p>3. etc...</p> <p>Warehouse worker AI Agent: It need hardware supprt, to auto pack or machine loading the cargo from container to warehouse or container. It will collect/adjust the cargo detail weight/volumne and other demension features and feedback to CW1 EDI. Using AI vision to do the picture reasoning and some instruction to AI machine robot. If warehosue do not have the robot API, then instead them with the real human workder, build one APP taking pictures and auto uploading to CW1 EDI</p>	
AI Point G - Finance Integration	<p>Instance Invoice AI Agent: Support instance create the invoice by excel file by someone approved for this</p> <p>Auto Rting AI Agent: Agent will periodically check the chargeline and the cost/revenue from rate system before sending to SAP, if find some mismatch based on the ted result, will actively send email/voice call to finance team to double check the amount before sending to SAP. This is based on the quotation rate type, if that's client rate, will only impact the supplier invoice, if is spot rate with T&C, will do ting based on the T&C agreement.</p>	
AI Point H - Warehouse data management	<p>Warehosue Data AI Collector: Based on the existing data from Email, warehouse will send the collected data by email to specific receiver, and AI will pickup all the mail with that title, gain the file and extract the information finally feed into CW1 or ALP reporting system</p>	
AI Point I - Customs EDI	<p>Customs AI Agent: Based on the different country and custom handling method, this agent will auto generate the customs related document in system by prompt demonds like: "Please help</p>	

	me to generate all the customs report for consol id XXXX”, Agent will generate the document and based on the export/import country and do API integration with country based customs system or send EMAIL autoly to some receiver once approved by someone in Maersk Customs team.	
AI Point J - Customer/Supplier Invoice	Invoicing AI Validator: Before sending to customer and supplier, AI will auto check the data in ALP system whether the data matches with original incoterm/updated incoterm, credit/payment terms and also credit status which from SAP, if found some issue, will send out the information to dedicated business team	
AI Point K - BI/Performance Reporting	Business Forecast AI Agent: This agent will collect all the necessary key business data and build business BI report or forecast report using AI power (Only offline AI model), after we done of that will finally periodically send result to the people who subscribed this topics. Also those people who has the access to this agent they can easily request a new BI report request to this agent, “Please send me the consol profit in past 6 month and based on the previous experience, please help to forecast the profit trends in next 6 month, also please find out the impact factors which mainly blocked us make more profit based on the historical data“	

After Shipment Phase

Brief System Interactions

5. After Shipment Phase



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AI Points

AI Point Tag	AI Usecase	Business Value
AI Point A - Behavior Data Collecting	<p>AI Receiving the data from CW1 database and analysis to some behavior data and feed into AI knowledge base, after we gaining this data we will have below AI functional points</p> <ol style="list-style-type: none"> Data Visibility AI Agent: "Please give me the recent delayed shipments in recent 2 month"/"Please give me a report that ATD and ATA over 18 days in LCL business" AI operation optimization feedback mechanism: it will calculate the best operation actions which collected from different operators' data. Feeding into the AI booking agent to better fill the data in different sections 	
AI Point B - Routing Optimization	<p>AI Knowledgebase: Feed real transit time, dispute info or other transactional data into route engine, AI will help to optimize the route engine in different conditions weights, increase the AI routing calculation agent calc accuracy</p>	

AI Point C - Order Planner Tool Optimization	AI Knowledgebase: Feed real shipment data, transpotation plans, based on the real consol setup and final cost and revenue, finally, to increase AI consol optimization agent calc accuracy	
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