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WHITEPAPER

THE NEED FOR AN INTEGRATED ERP/CTRM SOLUTION FOR COMMODITY TRADING

Full insights into and control over commodity trading, inventory management, finance.

With integrated ERP/CTRM software, companies can:

Reduce Risks

Make Logistics Processes Transparent

Remain Competitive

Introduction

Commodity trading companies are not like ordinary trading firms. They are companies that are able to connect price fluctuations in futures trading to the logistical handling of the goods. Optimizing this process is their ultimate challenge.

Let say, you are a commodity trader in Great Britain and you close a deal. The goods are located in Russia and must be shipped to South Korea. From there, they are resold to a client elsewhere in the world that offers a different price. Just at that moment, the currency in one of these countries drops to a record low level. Since the contract prices are in US dollars and euros, the company now incurs a currency risk. How can you make this transparent? Most logistics software solutions do not have functionality that provide clear insight and a push of a button in Excel also cannot clarify the situation. With an increasingly shorter time-to-market and a highly dynamic market, insight into the commodity trading process is extremely important.

In this white paper, we reflect on the challenges in the commodity trading business, the existing software solutions and a fully integrated commodity trading and ERP solution that you might not yet know. With this solution – the Cadran Commodity Trading and Risk Management (CTRM) module integrated in Oracle JD Edwards ERP – you have the right software for trading, inventory management and finance, you can make processes transparent, reduce risks and remain competitive.

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1. Developments in Commodity Trading

Risk Management of Price Fluctuations

The trade in commodities is the backbone of the global economy. After all, everything is ultimately produced from raw materials. An important factor in the establishment of the raw material prices is the economic outlook for the future. Expectations can change from one moment to the next. On the demand or supply side, external shocks can occur, as a result of which expectations can change. For some raw material markets, large players on the supply side can exert enormous influence on the price. The market for crude oil is a good example of this. However, a natural disaster or political instability can lead to changing expectations of both supply and demand.

For example, the milk industry is experiencing problems due to the trade restrictions in Iran. Political issues also regularly arise in China – which makes it necessary to change existing agreements. Russia and the Ukraine have made frequent headlines recently due to trade embargoes.

Commodity prices can fluctuate tremendously, but the prices of all commodities are currently relatively low (see chart). Whether it is petroleum, gold, coffee, milk or grain, the prices have been falling for some time.

For many traders, this also means that the margins are smaller and that there will be a much greater focus on the cost side than previously to secure margins. Efficiency is the key word here.

Supply Chain Integration

Many commodity traders want to control quality and price as effectively as possible and want to be certain of supply and purchase. Vertical integration is a trend in this: storage and transshipment facilities and production capacity are ensured, as a result of which sudden shortages can be responded to more effectively. We are also seeing that large (and rich) trading houses in particular are merging more frequently by acquiring companies (horizontal integration). This enables them to achieve economies of scale and enter new markets.

The result of this chain integration is that commodity trading companies are growing ever larger. Larger often also means more complex, which results in a greater need for control – for example, financial control due to credit lines at banks. However, quality control and certification also play an increasingly important role.

In short, commodity trading is more than transporting raw materials from point A to point B – it increasingly means from “Farm to Fork”.

Danone acquires WhiteWave Foods

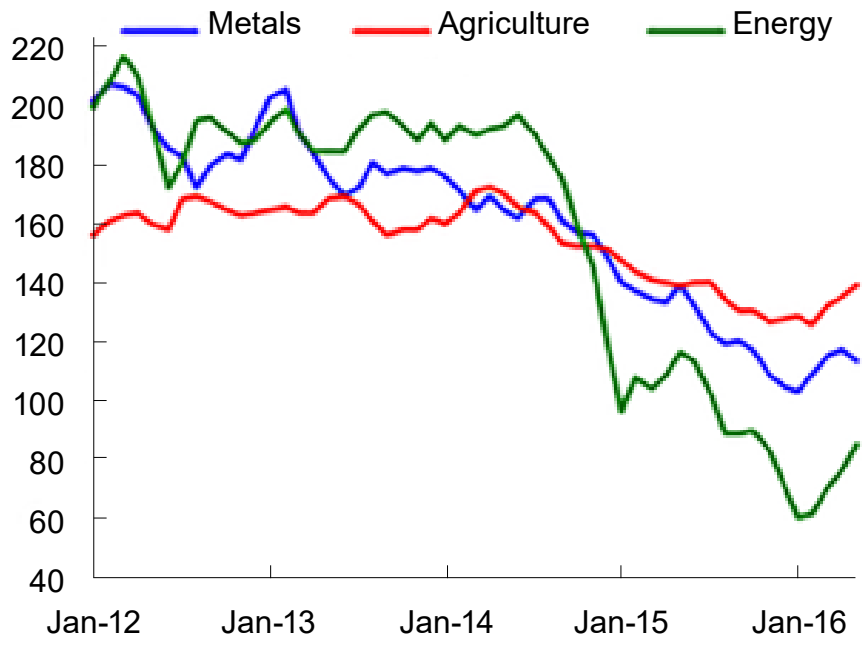
The French food corporation Danone, the largest producer of yogurt in the world, takes over the American food corporation WhiteWave Foods. The latter is a producer of soy milk and other organic foods. WhiteWave Foods, known for their Horizon gluten-free products (among others), is also the company behind the originally Belgian milk substitute Alpro Soya.
With this acquisition, Danone hopes to become the world market leader in the organic foods sector.

Source: Het Financieele Dagblad, 6 July 2016

Rules and Regulations

Commodity Traders increasingly have to adhere to regulations aimed at food security, taxes and anti money laundering regulations. A recent example of this is the obligation to register the ultimate beneficiary owner in a deal. Increased regulations in cross border transactions, can present challenges for commodity traders to keep administration costs low, while being able to act quickly. Automating these processes and keeping an accurate audit trail is increasingly important. Being able to respond quickly to these changes can often lead to a competitive advantage.

IMF Commodity Price Indices
(2005=100)



Source: Het Financieele Dagblad, 6 July 2016

2. Critical Success Factors of the Commodity Trader

Commodity trading often involves a number of challenges that must be managed as effectively as possible. We can consider these to be the critical success factors. The most important are reducing the various risks that trading entails and the implementation of the logistics process.

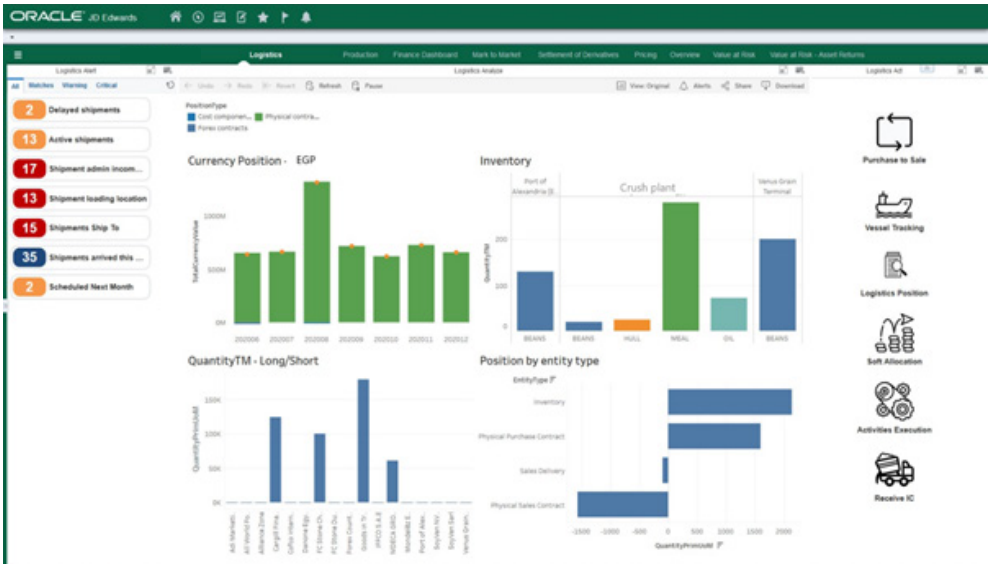
Risk Management Through Real-Time Insight

Where are my goods? Can I deliver on time? What are my margins? Am I performing according to the budget? What are the actual currency rates? Are my purchase or sales orders hedged? What is my borrowing base?

These are just a handful of the questions that come from the various departments, such as logistics, sales, trading, finance, treasury and your bank.

Insight into the market positions, contracts, currency positions and the operational risk, such as compliance with legislation and regulations, is crucial to the trading activities and is essential for managing risks. After all, quality, weather and transport are extremely variable factors in the trading process. For example, with regard to price fluctuations, a real-time position report that can present the various contract forms in a clear manner is a precondition to be able to operate effectively.

Real-time insight is necessary to be able to take the right actions at precisely the right moment, and in this way deliver on time, save costs and increase margins. If these matters are not ensured in a robust software system, the company runs a great deal of unnecessary risk.



Easy overviews providing an appealing UX

The Data Driven Commodity Trader

With increased need to respond quickly, for commodity traders it is increasingly important to have both the information available and are able to create insights on this quickly. This will allow their business to respond quicker to market movements, and optimize across its supply chain. Throughout the organization, being able to take more data driven decisions is increasingly important. From automatic selection of the ideal freight rates based on historical prices, to being able to have real time insights into your position: having accurate information is crucial to make the right business decisions.

Logistics Services

After signing a deal, the logistics department is responsible for the execution of the contract. Due to the continued low prices recently, it is extremely important for the trading company to excel on service and make profit on this. Logistics services such as storage and transport are therefore crucial and an important critical success factor. Managing the goods flows and recording transactions in a logistics system ensures that clients remain satisfied, that they receive correct invoices and that the costs of storage and transport can be managed effectively.

Manufacturing Decisions

Besides getting the goods from A to B, decisions on whether to blend, separate or manufacture a good are crucial for commodity traders. Being able to trigger work orders, perform requirements planning and plan production allows for more precise planning of both production. Reversely, being able to track market exposure for a manufacturing firm, allows for more precise insights in risks and financial exposure.

3. Existing Software Solutions and Procedures are Inadequate

Both trading companies and manufacturing companies with a trading department have automated their business processes in various ways. The choices that they have made in the past are often based on the options that were available at that time, but those do have their limitations.

Custom-Made Software for Trading

There are many companies that have developed the necessary commodity trading functionality themselves, or have had this functionality developed. This custom-made solution is integrated with the existing ERP solution.

They purchased an ERP solution in the assumption that it was adequate. Over time, however, it became apparent that the commodity trading module was more complex than they thought. The numerous custom-made modifications on both the sales and purchasing sides make it difficult to upgrade. As a result, an outdated system is often used at a time when technological developments progress at lightning speed, causing the growth of companies to be seriously at risk.

Standard Software for Trading

Other companies work with a standard software solution that only covers trading functionality. This software is often not (adequately) integrated with existing ERP solutions and over time the commodity trader discovers that required functionality is lacking. No financial module is included and the logistics functionality in the software solution is so minimal that it cannot process the logistical transactions of a trading company, with all of the various types of transport means and cross-border and cross-continental regulations. It is also difficult to retrieve the right operational and management information from these inadequately integrated systems, which results in too little insight to make the right decisions. The integration of the systems and keeping these systems up to date during release changes is another challenge that many companies face.

Spreadsheets

Spreadsheets such as Excel are also used regularly to obtain insight into the commodity trading processes, with flexibility and user friendliness as their advantages. For the complicated processes, macros are built to achieve the desired result with formulas, to be used in reports. The disadvantages of Excel are that there is no history or traceability, there is no integrated security, and there is a chance of double entry – as a result of which the ‘one version of the truth’ principle does not apply. Another major disadvantage of working with spreadsheets is the significant chance of errors and an unnecessarily large amount of time is spent on data input. A contract must be entered in one system and the financial transaction must then be entered in another system. In short, a time-consuming process in which many (human) errors can be made.

In addition, spreadsheets also have little to no security compared to an ERP system. In principle, anyone can work in a spreadsheet and make changes. No workflows can be set up and linked to the rights of a user.

In an ERP system, from the moment that a tran-saction is entered, a record is saved in the database. Changes that are then made overwrite the record in the database, but this change will then also be visible and traceable by means of an audit table.

In a spreadsheet, the user has to indicate changes himself – if not, it can become a considerable puzzle. After changes are made, new versions of the spread-sheets are often created, which makes finding and maintaining the latest version difficult.

4. An Integrated ERP/CTRM System as a Total Solution

More and more companies are facing the problem that the existing solution no longer suffices; integration with logistics and finance is lacking and the complexity of the increasingly large trading companies due to supply chain integration is not being adequately supported. As a result, this has created the demand for integrated Commodity Trading and Risk Management (CTRM) and ERP software. The integrated solution offers the required support for all of the business processes of the various departments.

Trading

An integrated ERP/CTRM system offers real-time insight into positions for trading, logistics and finance departments. When an employee enters a transaction in the system, it immediately becomes visible to everyone else. Whether the currency of a particular payment is registered or a check is carried out to see whether a buyer is creditworthy: all of this is immediately visible to all departments. Because contracts are often concluded in a future period –known as forward contracts – the risks are greater. After all, nobody knows what the situation will be in three months or in a year. Moreover, contracts are not always purchased or sold at a fixed price.

This deter mines the risk to a large extent. A priced contract of course entails a greater risk than an unpriced contract. From its position, it can very easily be distilled how great the risk actually is and whether the risk is covered by means of futures or Forex contracts. Real-time insight into positions is of major importance for everyone and makes it much easier to determine the right strategy.

This position forms the heart of the integrated ERP/CTRM system. Here, the contracts, logistics agreements, the prices, costs and all other important variables come together.

Because all data is stored in the integrated ERP/ CTRM system, users can retrieve the information from the system that they find important by using integrated Business Intelligence (BI) modules or reporting tools. Management shall use the graphical BI reports and dashboards to make decisions. On an operational level, the BI or reporting module offers the right detail information, for instance for the traders and controllers.

Logistics Services

The logistics department is responsible for the transport, the storage and the delivery with any other additional activities relating to that. The logistics department also has a monitoring function checking that goods sold have been purchased, whether everything has arrived, what means of transport must be used, the required timeframe, the company's responsibilities and the restrictions and import/ export licenses that are applicable. This department also checks the quality of the goods, verifies the delivery time and the desired packaging material.

At companies that work with a non-ERP integrated system, employees must combine all of the various pieces of information manually.

With an integrated ERP/CTRM system, both traders, logistics and finance people can all look at the positions: while the trader has everything at a high level overview (has everything been purchased? What must still be bought?), the logistics department goes one level deeper.

Allocations

The details of the delivery must be administered. But, since usually various changes are made at the last minute, it is important the system addresses this need for flexibility. The allocation process is an important functionality that an integrated ERP/CTRM system must contain. Purchases and supplies can be linked to the order, but can still be changed right up to the time of the actual delivery. In this way, a need is met that other systems do not, or only barely, fulfill.

Finance & Treasury

Generally speaking, the shorter the time frame, the easier the trading process. However, there is often a long period of time between purchase, sale and delivery, which in turn increases the complexity. Everyone looks at the various steps in the process using their own expertise. Finance & Treasury departments mainly look at the liquidity and cash flow forecast of all of the outstanding positions, foreign exchange contracts and futures; they keep an eye on the balance between what can still be claimed, what must still be paid and what the actual bank balance is.

Borrowing Base

Finance is also responsible for checking if clients comply with the payment terms, the credit rating of suppliers, and whether money must be borrowed from the bank. In the latter case, it must be possible to present a 'borrowing base' report to the bank. This is because the desire to be in control applies not only to the company itself, but also to the banks behind the commodity trading companies. For these banks the stake is significant and pressure is exerted to reduce risks. It must be clear what the commodity trader has purchased and sold and what the value of the supply is, in addition to an overview of the outstanding balances and debts.

The borrowing base functionality is an important component in an integrated ERP/CTRM system.

Position Management

The basis for every trader is its position. Without knowing the exact position, they just can't take the right decisions. Since all positions are real-time presented in the system, finance department can easily request monthly or quarterly results. Without real-time position information, many professionals notice that they are faced with various versions of the truth, such as spreadsheets with untraceable corrections. Nowadays the month-end-close must be finished as quickly as possible. Results must be available in just a few days, which increases the pressure and the risk of errors. Having position information real-time available in an integrated ERP/ CTRM system, professionals can focus on more important matters.

Having accurate position information allows also accurate marking its position to the market.

Gradually Adding Information

During trading, different departments register information in their systems at different moments. It is clear that two parties will do business with each other, but the details are still lacking. Over time, agreements such as delivery period, price agreements and delivery location will become more specific. Therefore, it must be possible to gradually add information.

Greeks and Value at Risk

Going beyond having an accurate real time position, commodity traders use different models to assess risk to their portfolio. Examples are Greeks calculations which represent price curves based on variables like volatility. The use of this can help a trader in better determining where the market is moving, aiding its deal making. At the same time, assessing the risk of its portfolio is equally important. With global markets swinging due to global event like elections, pandemics and other events, having a daily insight into the value at risk within your portfolio is crucial. An integrated solution can support this as all cost movements across the supply chain are tracked and taken into account.

Bank/Cash Management

An integrated ERP/CTRM system must also contain adequate functionality for Bank & Cash Management. This way bank data can be imported and matched to the invoices and payments.

Because of the sheer volume of invoices involved in commodity trading, CTRM4JDE can be integrated with an invoice scanning solution allowing for a significant decrease in the amount of work.

5. The Next Steps: Cadran's Integrated ERP/CTRM Solution

As described in the previous chapter, an integrated ERP/CTRM system offers extensive functionality that is essential for a commodity trading company. However, at this time there are no integrated solutions on the market. An example of an available integrated solution is that of Cadran, which is based on Oracle JD Edwards ERP. Cadran has developed an additional module in Oracle JD Edwards that offers all of the necessary functionality. The Cadran ERP/CTRM solution is also integrated with Tableau, which gives all users access to the information relevant to them.

In addition to all of the options as described in the previous chapter, the Cadran ERP/CTRM solution also offers much more functionality, such as:

Approval Flows

Commodity traders often trade with enormous amounts. It needs no explanation that this can involve major risks. A good practice at many companies is that a system of approval rounds is established. Thus, it can be guaranteed that multiple people grant their approval before a contract can be concluded.
A system that can be flexibly implemented is important and must never impede trading, but has to be safe and easy to use. Cadran's ERP/CTRM system has set up a standard workflow in which the four-eyes principle is used: one person enters the contract and someone else checks and validates it. Alerts and warnings are possible so that a check can be carried out on user or management level.
All of this ensures that the chance of errors is kept to a minimum.

Dashboards and Alerts

What contracts have not yet been approved and sent? What bills are not yet paid? What contracts are not yet priced? Have the actual market prices already been loaded?What purchase and sales contracts are not yet allocated?

These are just a few of the questions from the daily trading practice that everyone wants to have quick answers to. With the dashboards and watch lists in the Cadran ERP/CTRM solution, the answers to these questions quickly become clear. With respect to this business intelligence information, 'alerts' can be set up for specific groups if desired. These alerts issue a warning if action must be taken in accordance with the alert-analyze-act principle, for example individuals can receive an alert if the exchange rate fluctuates or if a condition changes. Using watch lists, specific alerts can be set up for specific groups. This can also be done on mobile devices. As a result, less mutual consultation and discussion is required and the action points are simply specified by the system.

With an integrated data model in Tableau, users can very quickly create their own insights. This allows for individual insights relevant to that employee. With the ability to run R and Python scripts, advanced models can be implemented easily, allowing for a future proof application relevant to your business.

Most trading companies have multiple locations and subsidiaries around the world. By enabling all of the companies to work with the same system, everyone has the most up-to-date overview. For example, Google Maps can be linked to the master data to see where the various branches, buyers and suppliers are located.

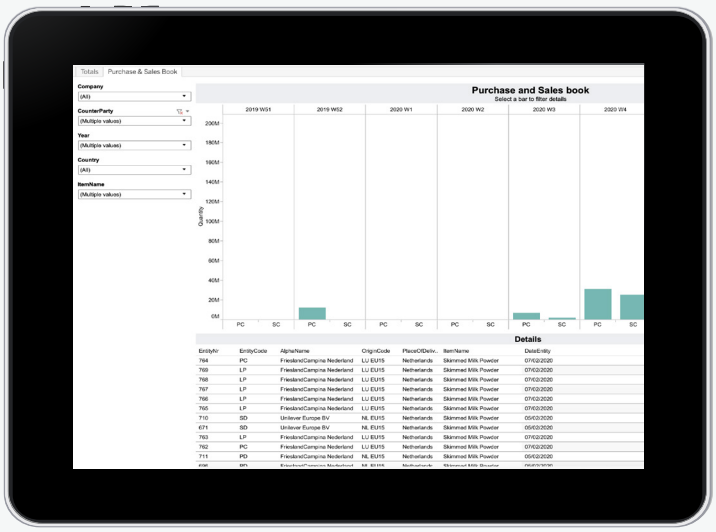
Allocations

During the shift from trade to logistics, a number of things must be checked. The most important part of this is the allocation: does what was purchased correspond with what is to be delivered to the client. This can be 1:1, 1:n and n:n, for example 1 purchase contract that will be delivered to 4 sales contracts. The common denominator of all contracts is that they all relate to the same commodity. Prices, conditions and parties can differ and everything can completely change at the last minute. Most ERP systems lack the flexibility to deal with this. However, Cadran's ERP/ CTRM solution can deal with this. The trader can make a first allocation, then the logistics employee looks at it and the settlement becomes more specific. The logistical employee is able to first reserve the lot, making it definite only later in the process. It can immediately plan with this soft allocation, but is offered flexibility across its work. Using the allocation matrix, it becomes clear what must be planned and what steps the contract must go through.

At many companies, the goods must be repackaged or placed in stock to ripen or documents must be drawn up. Should it finally end up not being delivered, *everything can be taken a step back.* The allocation can only be finalized if the delivery has actually been made. Up until that moment, there is **total flexibility.**

Linking contracts to derivatives

At every moment traders want to have insight in why they have taken certain decisions regarding physical contracts, futures, forex and options. Due to the number of contracts and the (often extensive) amount of time between concluding and executing the contract, it is important for this information to be transparent. Linking the contracts to derivatives provides the necessary transparency and insight into the risk position of the trader. This is very useful information not only for the trader, but also for other departments and for audits. Additionally, changes in the position form a trigger for the report or alerts that the trader reminds to take action. The reporting tool in the ERP system shows real-time data, so action can be taken immediately in case of i.e. market fluctuations. Whether it concerns futures, options, forex or forex options, all types of derivatives can be handled by the system.



Dashboard

Mark-to-Market

The function 'Valuation' makes it clear to the trader at any given moment what the value of the signed contracts is at the current market price. This Mark-to-Market (M2M) principle is typical for the commodity trading market. On a monthly, weekly or at some companies even daily basis, the open contracts are valued at the market price as of that moment. In addition, the P&L is important. Finally one wants to know if a transaction was profitable or not on a company level, a department level and even on the individual trader level.

Customized Working Environment/Workflows

In the Cadran ERP/CTRM system, menus can be made invisible and workflows can be set up and linked to the rights of a user. This enables you to not authorize users for things such as changing contract information, viewing the trading position or preparing an invoice. There are many ways to implement this 'segregation of duties' for trading, logistics or financial processes by means of the workflows that are available as standard on the transactions in the ERP system. In this way, a customized working environment can be configured for each type of user and/or department, enabling the user to carry out his work quickly, easily and clearly.

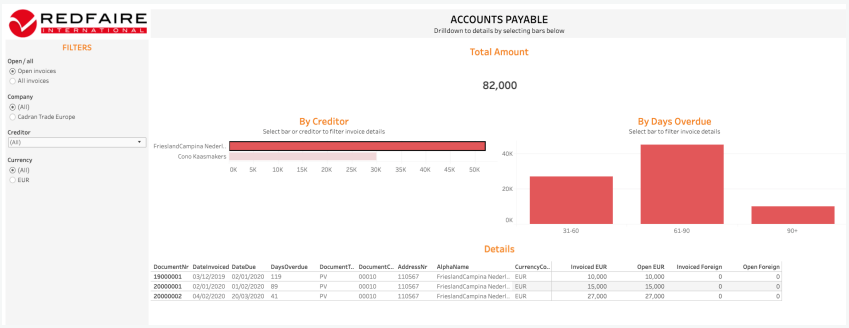
Integrations and Robotic Process Automations

With increasingly specialized applications becoming available, being able to integrate multiple applications easily is of paramount importance. By means of the JD Edwards orchestrator, most processes can be automated and integrated across applications. This allows for example for integrations with your communication platform like Microsoft Teams or Slack, or for integrations with weigh bridges and market data systems.

Why Oracle JD Edwards ERP?

Commodity traders are generally highly internationally oriented, often have multiple offices in multiple countries and work with foreign currencies and in various languages. Oracle JD Edwards ERP fully supports this with multi-site, multi-currency and multi-language options. The system is adapted to local legislation and regulations as well as local payment systems.

Oracle JD Edwards has a very large number of modules available in the area of financial management, CRM, HRM, manufacturing, order management, logistics, procurement, projects, sales, service and asset management. Oracle JD Edwards has been in business for nearly 40 years and approximately 6,000 organizations work with Oracle JD Edwards worldwide.



Readily available dashboards from AP to cashflow overviews

6. Conclusions

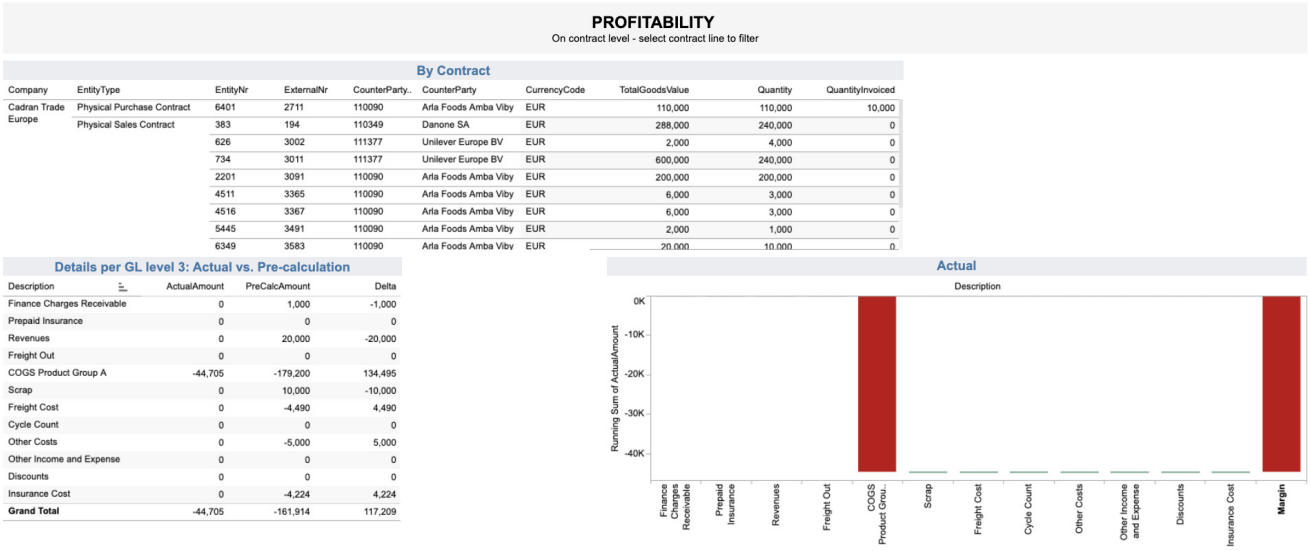
The world of commodity trade is experiencing considerable change. To remain competitive and profitable, it is extremely important for business processes to be given optimal support by automated systems. Departments must be able to work together efficiently and must have real-time insight into the contracts, costs, margins, trade positions, the logistics performance and the key financial figures. Besides, regulations are becoming more strict and the need for professional reporting increases. Spreadsheet are not sufficient anymore.

Many existing solutions in the market, such as custom-made software for CTRM, non-integrated CTRM and ERP solutions and the frequently used spreadsheet applications offer insufficient opportunities to effectively support commodity traders and manufacturers with their own trading department. Cadran offers these companies an exceptional “Next Step” to automate their processes with the Cadran-developed solution based on Oracle JD Edwards ERP. In combination with the Oracle BI solution, organizations are given a total solution that offers full insight into all business processes.

The Cadran ERP/CTRM solution is certified by Oracle through the Oracle Validated Integrated programme, which ensures users of an optimum integration of CTRM, ERP and Tableu.

For more information about this solution, go to:
www.cadran.nl/en/solutions/ctrm-commodity-trading-risk-management-solution

If you have any questions, you can contact Mark Kamphuis (mka@cadran.nl) or Sjors Oosterwaal (soo@cadran.nl).



End to end profitability tracking on eg. lot level, commodity, portfolio and customer level

About Us

Powered by Cadran Consultancy

Cadran Consultancy is a certified Oracle Gold Business Partner and reseller. Since 1998, we have delivered and implemented Oracle JD Edwards ERP software and now also Oracle Cloud.
Our specialization in wholesale, commodity trading and industrial manufacturing ensures that we can support our clients in these industries with thorough knowledge. Cadran has its own development department that is responsible for the development and support of the Commodity Trading & Risk Management module.

Cadran is also co-founder of Redfaire International, a joint venture of six European Oracle JD Edwards partners with more than 300 specialists combined.

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When our clients succeed, we succeed so we apply this value to everything we do to deliver best-in-class consultancy projects and customer success.

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corporate software MPL

MPL Corporate Software is an award-winning Oracle JD Edwards & Cloud Partner in Brazil. Founded in 1985, MPL provides a full range of digital transformation solutions and consulting services to more than 150 JD Edwards customers in the region. One of the largest, longest serving and most experienced JD Edwards practices in Brazil, MPL has significant experience and in-depth local knowledge.

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