Building for growth: Why the future of commodity and energy trading starts with a next gen CTRM/ETRM

Authors: Dr. Vlatko Davidovski, Dr. Amitava Ghosh, Sebastian Priarollo, Alisha Khadka

Despite turbulent markets, one sector that has seen a strong boom in activity and profitability in the last year is undoubtedly the commodity and energy trading industry. With reported profits at an all-time high across several industry majors, the future certainly appears bright.

Nevertheless, volatile market conditions, the need to manage larger transaction volumes and respond rapidly to changing business priorities puts even higher pressure on the evolving technology landscape of commodity and energy players, thus creating both risks and opportunities. To win the growth race and maximize market opportunity, commodity and energy trading organizations will need to ensure a firm foundation, i.e. a next gen CTRM/ETRM system landscape.

Building on our experience in business transformation across multiple industry-leading customers, we have defined 11 critical dimensions for evaluating a CTRM/ETRM's maturity level and shaping a company's digital transformation agenda in that space. These dimensions, derived from key industry and technological challenges and Cognizant's experience in digital transformation in this domain, lay the foundation to design, build and deploy game-changing CTRM/ETRM capabilities. We also go one step further, showing 5 key recommendations for C-Suite executives to help structure their digital transformation agenda in this space and explain how such capabilities lead to tangible, long-lasting added value for commodity and energy trading players.

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Industry in flux: How changing market conditions are impacting CTRM/ETRM strategy

To understand an industry is to understand its challenges. As for most industries, the last few years brought rapid and unpredictable changes for the commodity trading industry.

Chief amongst these disruptions, the COVID-19 pandemic has been a source of lasting disruption in market conditions. Lockdowns, disrupted supply chains and increased regionalization have all contributed to higher market volatility. Two years on, markets continue to suffer from high inflation rates. Additionally, many global supply chains have not enabled key industries to return to pre-pandemic levels of output. This has been emphasized by the evolving global geopolitical landscape, causing companies to factor in sanctions risk when planning their business moves. These forces combined have significantly increased complexity across the entire trading value chain: starting with sourcing, through forecasting, pricing, compliance, finance, logistics and risk management.

Beyond geopolitics, societal trends are also increasingly impacting the industry. In particular, societies are continuing to drive the transition towards sustainable power sources and fuels. While current time horizons largely target 2050, commodity players are already having to contend with these strategic shifts. For instance, many of our clients have been focusing on making inroads into sustainable fuels, hydrogen and other green alternatives. Additionally, rare earths are playing an increasingly important role in commodity players' portfolios as electrification progresses. Such shifts in commodity priorities trigger a change of focus in trading strategies and in the demand for technology and processes to support seamless adaptation to changing business priorities.

To address these challenges, commodity trading firms will have to lean on their CTRM/ETRM systems and their wider application landscape. On the one hand, real-time reporting, capital usage and P&L monitoring will be needed to better manage volatility across portfolios.

On the other hand, compliance insights and smart, flexible risk management capabilities will be required to help traders navigate strategic and regulatory intricacies.

And finally, the comprehensive coverage of business processes and the ability to easily scale and onboard new commodities and geographies, while retaining the need to respond to local regulations, will play a pivotal role in how fast companies can leverage opportunities to expand market share.
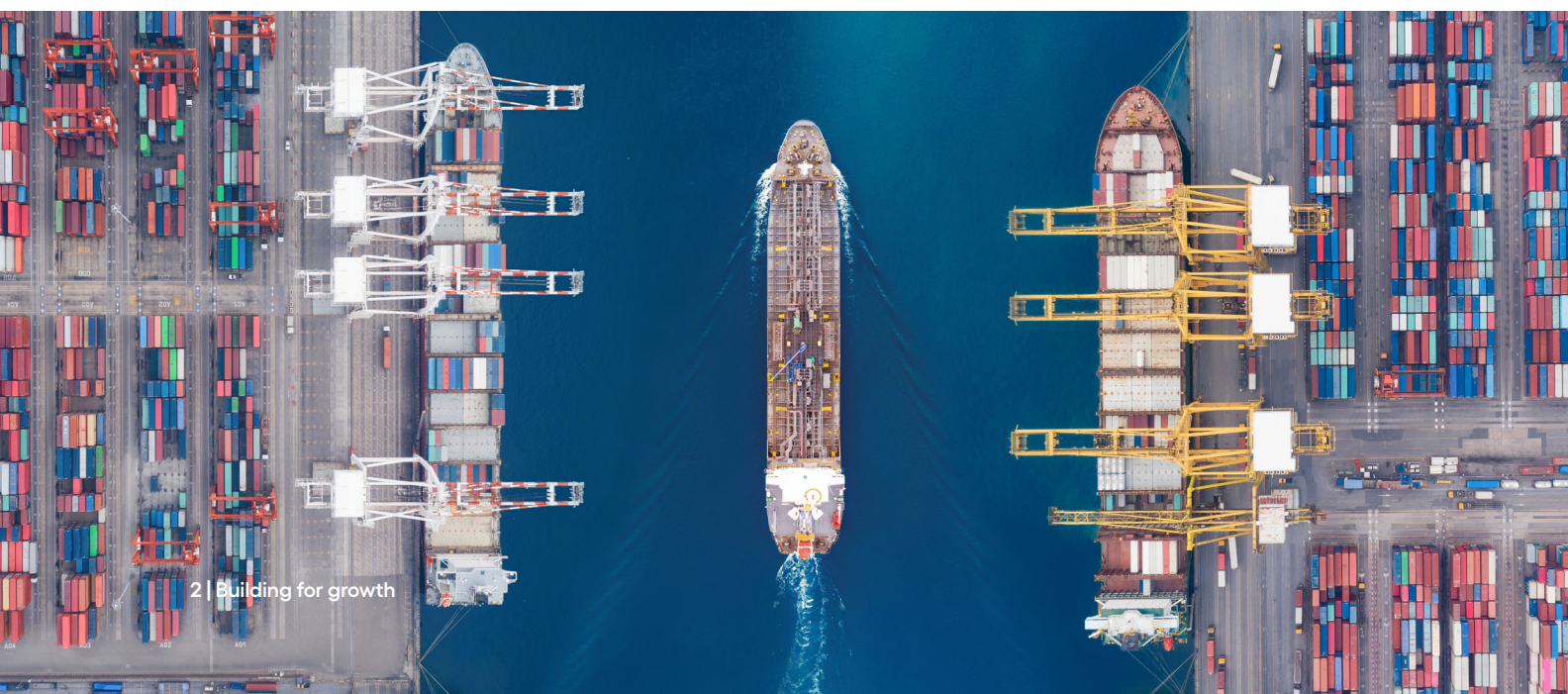
Technology-enabled new frontiers for your CTRM/ETRM

While industry and societal forces are impacting commodity and energy trading companies, they are not the only trends affecting how these organizations shape their systems. Long hyped and much debated, many technologies have proven through concrete use cases the tremendous added value that they can deliver.

Starting on the data layer, companies across industries have understood the value of centralizing and consolidating their system's data. This is no less true for CTRM/ETRMs, where fragmentation has been omnipresent. Through shrewd system design and the help of integration tools, commodity trading companies will be able to turn their CTRM/ETRMs from a post-factum system into a unified single source of truth providing real-time insights.

However, integration does not stop there. Various technologies now enable the development of true trading ecosystems, bringing together players in the field to simplify processes, increase transparency and drive value.

This is the case with COVANTIS, where Cognizant supported the design of a simplified global post-trade execution leveraging a blockchain-based platform. This digital solution enables key global agri-trade players to connect and communicate digitally while managing key process interactions in an intuitive manner—such as vessel nominations and string management, documentary instructions, appointment of third-party providers, documents issuance, document presentation and more.

Another example is the platform VAKT, which leverages blockchain technology to enable instant trade validation and flagging of trade capture errors for trading majors. Integrating their existing CTRM/ETRM landscape with such ecosystems also represents an important challenge for many trading majors.

Benefiting from the consolidation and integration of data, AI and ML capabilities have been put into overdrive. The financial services industry has already shown how smart tools and systems can deliver tremendous impact in areas such as risk management and regulatory compliance. Cross pollination with the commodity trading industry has the potential to bring CTRM/ETRM systems to another level. This is also true in other areas, such as automation. By combining process design with the power of data, AI and ML, trading firms can increasingly automate workflows and allow traders to focus on value-accretive work. Automated trade validation, contract management, invoice processing, intelligent accounting and even intelligent trading strategies are not a story of the future anymore.

Finally, commodity trading firms are increasingly warming to cloud strategies. With the changing nature of work across the globe, a CTRM/ETRM will need to be available anytime and anywhere. On the one hand, this will require them to carefully strategize data management and governance to protect data assets from potential threats. On the other hand, this will require commodity trading firms to think about their cloud strategies in tandem with strong cyber security considerations.

Road to next gen: Building a roadmap to bring your CTRM/ETRM to the next level along key maturity dimensions

Through multiple engagements with industry-leading clients on CTRM/ETRM topics, we have regularly encountered organizations who struggled to a) identify the most critical areas to address to drive value, and b) develop an effective roadmap for realizing that value.

To this end, we have identified 11 maturity dimensions that present the highest potential for your organization to drive value from your CTRM/ETRM system.

1. **Functional coverage:** This dimension assesses the breadth and depth of the system's functionality across the core processes fulfilled by a CTRM/ETRM system, e.g. trade entry (physical and derivative), strategy management, intent management, pricing management, contract management, securitization and financing, hedging, operations and logistics, quality and quantity management, costs and incomes, invoicing and settlement, and interactions with accounting systems. Core processes are broken down and analyzed to identify key areas for technological improvement and workflow automation.

2. **Business coverage and extendibility:** This dimension measures the degree to which a CTRM/ETRM system can cater to the complexities of differing commodities, products and geographies. An analysis of the system landscape required to deliver the CTRM/ETRMs capabilities is performed along with an assessment of the coverage quality and consistency. Additionally, the scalability potential of the CTRM/ETRM to new commodities, products and geographies is evaluated and measured.

3. **Data quality and consistency:** This dimension assesses the role of the CTRM/ETRM system and associated data within the organization. System utilization is evaluated to understand whether data originates within, or whether data is added to the CTRM/ETRM after multiple operations are conducted outside of it (e.g. in spreadsheets, email exchanges, etc.). CTRM/ETRMs are benchmarked on a scale between post-factum systems (work conducted outside of the CTRM/ETRM and recorded after the fact) and a core trading system (work conducted fully in the CTRM/ETRM and captured in real time).

4. **Business process architecture:** This dimension assesses the level of coverage, standardization, documentation and optimization
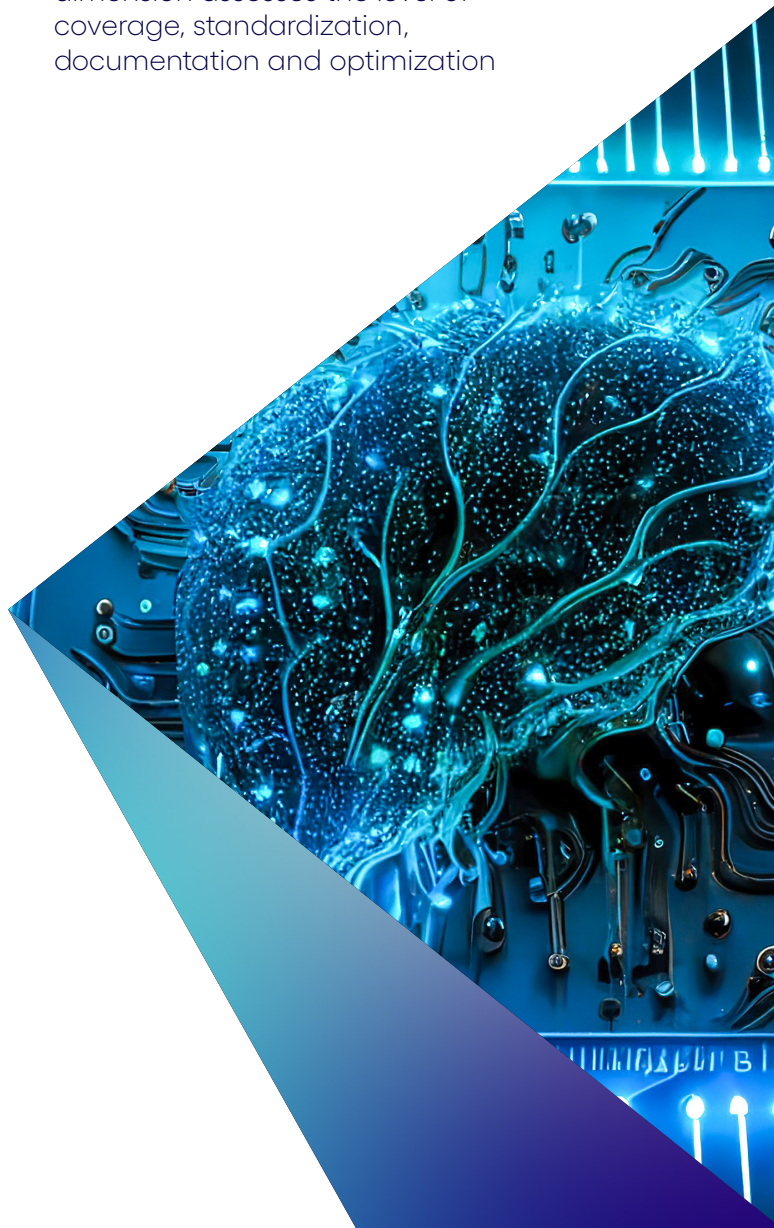
of the business processes underlining CTRM/ETRM systems. We evaluate how processes are tracked, measured and documented within an organization. Processes are benchmarked from ad-hoc and standardized to documented, measurable and innovative.

5. **System architecture, integration, scalability:** This dimension assesses the technological design of the CTRM/ETRM and its ability to scale with new functionality and requirements, along with the growing number of transactions and users. We evaluate the maturity of the architectural construct with regards to best practices and advanced technologies relevant to commodity trading. For instance, this may include an evaluation of a CTRM/ETRMs microservices layer, cloud compatibility and API enablement.

6. **Automation and efficiency:** This dimension assesses the ability of a CTRM/ETRM to automate routine tasks and processes, hence reducing manual effort and improving efficiency. We evaluate the extent to which technologies like RPA, smart automation, AI and ML are deployed. We further investigate the efficiency and performance of such systems, and the extent to which additional workflows could be automated.

7. **Intelligent data insight capability:** This dimension assesses the system's ability to manage, analyze and extract actionable insights from data to empower decision making. This involves evaluating the systems' data storage, data processing, analytics, data visualization and real-time decision support capabilities. This further evaluates the degree and ease with which users can configure the CTRM/ETRM to generate business intelligence reports without the help of IT.

8. **ESG traceability:** This dimension evaluates how a CTRM/ETRM supports the organization's Environmental, Social and Governance (ESG) commitments. This includes evaluating the ability of a system to track and report ESG metrics, manage ESG risks and integrate ESG factors into decision making throughout the trade lifecycle.

9. **User experience:** This dimension assesses the quality of the user experience and the intuitiveness and appeal of the design. We evaluate how user friendly, interactive and appealing a CTRM/ETRM is. We also investigate how modular and configurable a system is, and whether it can dynamically adapt to specific roles and functions. Also considered is the general availability of the CTRM/ETRM, e.g. for remote and mobile use.

10. **3rd party enablement:** This dimension assesses the capability and degree to which a CTRM/ETRM can operate as part of an ecosystem. We evaluate the capabilities of a CTRM/ETRM to integrate with 3rd party systems, offer digital access to external partners and leverage the benefits provided by federation.

11. **Security and compliance:** This dimension evaluates the security measures in place and a CTRM/ETRM's ability to help the organization comply with relevant regulations. We evaluate how the system can be tailored to respond to specific regulations across commodities, products and geographies. We further investigate the design and implementation of permissions management and data segregation (e.g. by roles, desks and geographies) to protect sensitive data and company interests. Finally, we evaluate the overall recovery capabilities and redundancy of the CTRM/ETRM in case of crisis.

Road to next gen:

Functional coverage

Business coverage and extendibility

Data quality and consistency

Business process architecture

System architecture, integration, scalability

Automation and efficiency

ESG traceability

Intelligent data insight capability

User experience

3rd party enablement

Security and compliance

Cognizant's key recommendations on the way to next gen CTRM/ETRM capabilities

Without a strong and realistic roadmap for the building a next gen CTRM/ETRM system, commodity and energy trading firms will often be confronted with crucial structural and organizational challenges. For this reason, we have compiled 5 key recommendations for leaders when embarking on such transformation journey.
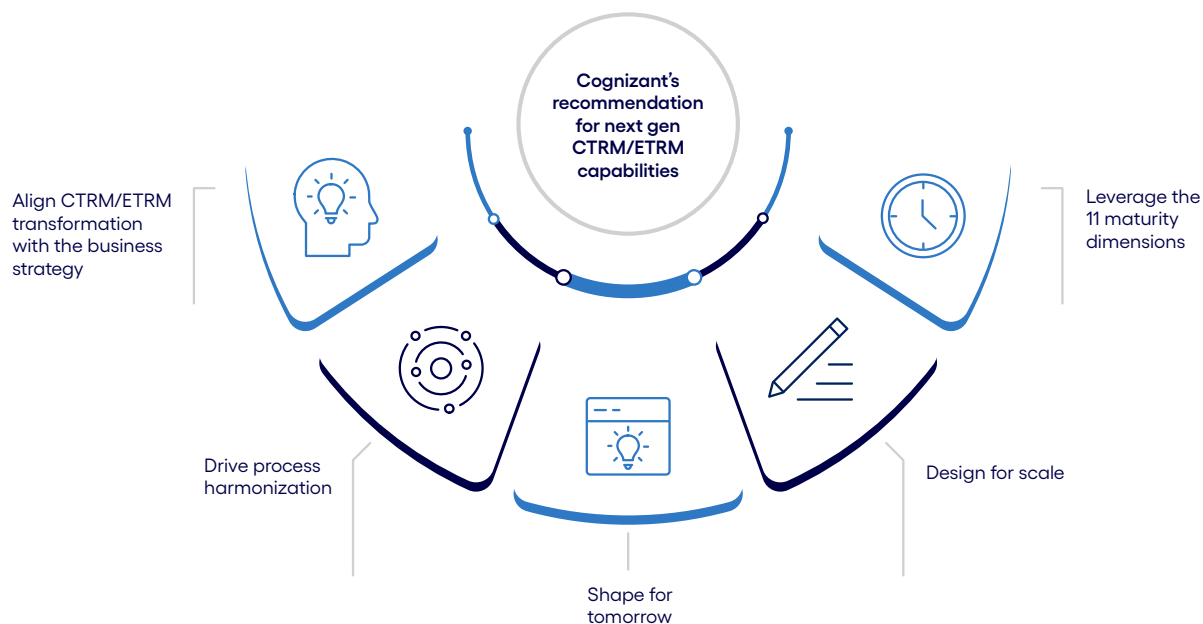
1. **Align CTRM/ETRM transformation with the business strategy :** Successful CTRM/ETRM transformations start with clearly defined objectives that are aligned to the overall business strategy. Frontloading the alignment effort to bring strategy and technology transformation planning on the same page are a critical success factor on such a journey. CTRM/ETRM systems, being at the heart of any trading organization, must be a catalyzer and not an iceberg in realizing the business agenda. Only in such a way can organizations significantly accelerate the time to value of transformation initiatives and ensure technology becomes a differentiator in bringing growth from paper to reality.

2. **Drive process harmony :** The biggest hindrance to realizing the full value of technological capabilities is non-harmonized processes. Only with standardization and transparency can next gen capabilities be effectively implemented and exploited. Known and documented processes further support organizations by reducing the time required to onboard and train users. Continuing the transformation to make them measurable helps an organization become a data driven meritocracy and further strive for excellence, which helps challenge processes to ensure straight through processing and the highest level of automation and empowerment across the organization.

3. **Shape for tomorrow:** When transforming your CTRM/ETRM, focus on what the future will look like in terms of technology and ways of working. Too many transformation efforts miss the opportunity to enable new cutting-edge capabilities and end up simply moving the old and inefficient concepts and processes to a new environment without challenging and improving, ending up with just modernizing their CTRM/ETRM's underlying technology stack, but without true transformational improvement.

4. **Design for scale:** Short-termism and nearsightedness in architecture design are cardinal sins for the scalability of IT systems. Design your CTRM/ETRM with scale in mind and allow the organization the opportunity to exploit opportunities in new commodities and geographies, but also to have the bandwidth to scale volumes of transactions without creating bottlenecks on either technology or people.

5. **Leverage the maturity dimensions :** The11 maturity dimensions clearly identify key areas of focus for organizations wanting to take their CTRM/ETRM to the next level. Understanding your maturity across these different areas will help identify the path of most value for your development. These dimensions also help prioritize actions based on your goals and objectives to drive tangible plans that enable results for your organization.

Dr. Vlatko Davidovski
Director – Consulting
Cognizant

Dr. Vlatko Davidovski leads the Products and Resources (P&R) industry consulting practice in Switzerland. With over two decades of experience in Consulting, Business Management, and Digital Strategy across diverse sectors and regions, he is a fervent advocate for digital transformation.

Before joining Cognizant, Vlatko established and led a Digital Innovation Lab for an international technology leader in subsurface diagnostics for the Energy sector. His academic achievements include an MSc in Computer Science from the prestigious ETH Institute in Zurich and a PhD in Economics from St. Petersburg State Polytechnical University.

Beyond his professional achievements, Vlatko is a sought-after guest lecturer and speaker worldwide, specializing in the subjects of Digitalization and Innovation.

Vlatko can be reached at **vlatko.davidovski@cognizant.com | www.linkedin.com/in/vlatko-davidovski**

Dr. Amitava Ghosh
Manager – Consulting
Cognizant

Dr. Amitava Ghosh is a Manager-Consulting within the Cognizant's Banking and Financial Services Consulting Practice. He leads agile implementations for Fortune customers as a SAFe Practice Consultant (SPC). Amitava is a sought-after advisor for leading large digital transformation engagements for Capital Markets firms.

Amitava joined Cognizant Consulting in 2016. Before joining Cognizant, Amitava completed his Doctorate from the Indian Institute of Management Calcutta with a dissertation on the Applications of Heuristics in Wealth Management.

Amitava can be reached at **amitava.ghosh2@cognizant.com | http://www.linkedin.com/in/dr-amitava-iimcal**

Sebastián Priarollo
Business Analyst – Consulting
Cognizant

Sebastián is a Business Analyst in the Products and Resources Consulting division with 5 years of professional experience driving digital transformation projects in various industries.

With multiple successful engagements completed, Sebastián brings a strong background in business process transformation, people and change management, as well as project and program management methodologies.

Sebastián can be reached at **sebastian.priarollo@cognizant.com | www.linkedin.com/in/sebastian-priarollo-76156482**

Alisha Khadka
Business Analyst – Consulting
Cognizant

Alisha Khadka is a Consulting Business Analyst with Cognizant's Banking and Financial Services Consulting Practice. She is a certified SAFe Product Owner/ Product Manager and leads change management initiatives for Energy customers.
Before joining Cognizant in 2022, Alisha has worked on several other engagements with Big 4 and Fortune firms in the areas of wealth management, insurance, and investment banking.

Alisha holds a Master of Business Administration from WeSchool, India.

Alisha can be reached at **alisha.khadka@cognizant.com | www.linkedin.com/in/khadka-alisha**

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