

Top View

“A great accomplishment shouldn’t be the end of the road, just the starting point for the next leap forward.”

Our core vision is to empower and integrate all stakeholders of the Logistics value chain to enable, accelerate and facilitate global trade. With digital trade facilitation as one of our core focuses this year, we are witnessing an interesting time with global regulators like WTO, WCO, UNCTAD, etc. driving Trade Facilitation. We are heading towards uniform regulatory systems and streamlining of the logistics industry. Trends like the rise of e-Commerce platforms, cloud-hosted solutions, Blockchains, IoT, Machine Learning, Artificial Intelligence (AI) are driving the change. Given these cutting edge developments in technology, in keeping with the market trends we have initiated a number of projects on Machine Learning and AI to be incorporated in our solutions.

We plan to actively participate in this transaction as we believe in giving our customers the best experience and also bridge the technology gap between the developed and developing logistics industries globally. Our best in class and state-of-the-art community platforms are intended to offer several fulfilment mechanisms for simplification, modernization and harmonization of export and import processes, thereby helping the entire trading community become competitive globally.

In this edition of CRUX, we have P Balasubramanian, Founder and CEO of ACCIS Consultancy, who shares his views on where the Air Cargo Industry is heading. An article on Blockchain showcases the potential it has for the Logistics Industry. Meet our expert Santosh Singh who speaks about how Quality Assurance plays a crucial role in compliance with world-class software development. The spotlight is on the Digital Trade Corridor between India and Netherlands .

Happy Reading!

Gurmeet Singh Chopra

AVP - Trade Facilitation Practice, Kale Logistics Solutions



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Founder and CEO of ACCIS



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with Blockchain



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ASK THE EXPERT

Mr. Santosh Singh
QA, Kale Logistics Solutions



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P Balasubramanian - aka Bala - is an aviation veteran of over 40 years. Until recently, he worked with Emirates and prior to that with Air India. Currently, he is a Founder and CEO of ACCIS, a consultancy firm. Vastly experienced in air cargo across all verticals, he is a prominent figure at a global level in both the air cargo and dangerous goods sectors. Closely associated with IATA and other international bodies, Balasubramanian continues to be active in global air cargo forums, ever willing to learn, debate, encourage and contribute to the industry.

Mr. P Balasubramanian

Founder and CEO of ACCIS



CRUX You have been in the aviation industry now for more than 40 years, how has this industry changed in the last 10 years in terms of new technologies, innovation, collaboration etc.?

Bala The decade that went by had a dramatic start, just leaving the dreadful financial meltdown behind. The global economy had just seen one of its worst years and the air cargo industry was no different. The industry had nowhere to look except up - more for redemption and recovery, than by design. The euphoria of the resurrection gave way to pragmatism within a year. Technology boom accelerated globally but air cargo industry almost feigned ignorance initially, except integrators and a few other players. It has witnessed lopsided development with EDI paving the way to API on the one side while eAWB and eFreight initiatives moving at a snail's pace. The large advent of systems solution providers at least brought some semblance of tech savviness to this industry though critics might allude them to their survival and growth reasons. The dichotomy continues to exist where almost every industry person uses technology at a personal level in daily life but would shy away from implementing it at the workplace. Dwell times in transportation have marginally come down, not through any great innovation but through incremental efforts of both IATA as well as some industry players. Collaboration is by far at an intent level than at the implementation level. No air cargo conference will miss stressing this important factor but then it is business as usual until the next power point slide is up in the next conference. Integrators have played their part to modernise this industry but traditional air cargo carriers still lag behind. It still appears to be a case of system solution providers chasing industry users trying to sell them cost, process benefits rather than air cargo industry players actively seeking to leverage technology. There also seems to be a gross misconception that common industry initiative to use technology to bring industry up may be a competitive disadvantage.

CRUX In the last few years, we are witnessing eCommerce boom which is directly benefiting the aviation sector. Is the industry prepared for this growth and does it have the necessary infrastructure to scale operations?

Bala There is no doubt that air cargo is a direct beneficiary of the e-commerce boom. It forms approximately 10% of all air cargo and the share is set to grow, as we heard at the last IATA WCS. Physical infrastructure growth is finding it hard to keep pace with eCommerce growth while digital infrastructure is yet to be fully leveraged by the eCommerce industry. At the same Symposium, the numbers thrown at the audience were mind-boggling – current EUR 2000 plus billion industry is expected to grow globally by 50% in 4 years with Asia likely to outperform that statistic almost by double. The 'now' factor of today's consumer, the root cause of the eCommerce boom, is the same phenomenon applicable to eCommerce operators in terms of infrastructure. They would like the infrastructure expansion to keep pace with the breakneck speed at which eCommerce grows. Amazon, Alibaba and JD.com and regional heroes have abundantly displayed their impatience by opting for alternate solutions which are the key to further catapult their business models to a higher trajectory of orbit.

CRUX Globally all international bodies are pushing for Trade Facilitation. You are working closely with IATA, the Indian government and other international authorities. What are the challenges that were faced and how will it help?

Bala Looking at the global scenario, it is indeed fair for international bodies to expect Trade Facilitation. IATA made some strides in getting OECD to play a key role facilitate air cargo but the reality seems to be that air cargo industry certainly does not enjoy premium visibility from such bodies as compared with other industries. However,



IATA successfully has been engaging with individual governments in sensitising them to strengthen their Trade Facilitation measures and in encouraging them to take fresh initiatives. WCO's collaborative approach has gained momentum and the benefits are visible. At the Indian level, the government has shown its high level of commitment by creating Logistics Division in the Ministry of Commerce, establishment of Air Cargo Logistics Promotion Board and the unveiling of National Air Cargo Policy Outline 2019 by Ministry of Civil Aviation. Customs brought in the much needed 24 x 7 clearance. However, the trade does not seem to take advantage of this which would significantly improve all-around productivity, optimise utilisation of resources and lead to an overall reduction in dwell times. The introduction of AEO is a significant step in India, which has been prevailing in other parts of the world for quite some time now. Their plan to extend specific benefits to AEO membership is another encouraging step towards Trade Facilitation and 'Ease of doing business'. Similar measures must be taken by all airlines/handlers to encourage eAWB and eFreight acceptance by providing a 'Fast track'.

CRUX

Air cargo sector is witnessing an interesting time with growth volumes, digitisation, innovation. Where do you see this industry heading in the next 10 years?

Bala

Gazing through the crystal ball is the hardest thing to do with every fluctuating trade scenario. I do, in general, share the optimism of both the large aircraft manufacturers Airbus and Boeing on the long term forecast of a significant increase in the size of the 'pie'. While technology grows in leaps and bounds, air cargo would still be shy in adopting new technologies except in fits and starts during the next decade. We would still be wondering and vehemently debating as to why air cargo is not given its due place in the world trade. Digitisation may grow at a greater speed than digitalisation but that is no solace to industry progress at all. Tech companies will continue to push initiatives on Blockchain, IoT, AI and so on with IATA doing its bit through One Record, eAWB, eAWB360, Smart Facility, Cargo Connect, etc. Regulators can create a framework, tech companies can build enabling technologies but industry must implement, challenge and take this to a higher level.

**DID YOU
KNOW** 

Air freight is more than four times as popular as sea freight. 9.5 billion tons of trade goods are shipped by boat worldwide each year, but over 42 billion tons of goods are transported by air.



The logistics industry, as per industry estimates, has been projected to be worth \$15.5 trillion by 2023, with growth prospects to sustain thereafter. A typical supply chain in this industry has various stages, spans across several geographies and generates mountains of payments and invoices. Moreover, the end-to-end process involves multiple entities, with varying levels of trustworthiness and dependability. This business, hinging on trust, is all set to be disrupted and transformed to the next level with the advent of Blockchain technology.

Blockchain technology takes the form of a distributed ledger that records transactions between entities, securely and permanently. By virtue of 'sharing' databases between multiple entities, Blockchain effectively cuts out the middleman such as a trusted third-party intermediary who would have been required to verify, record and coordinate transactions in the past. This move from a centralised to a decentralised and distributed system, as facilitated by Blockchain, without a doubt liberates data from the safeguarded silos of the legacy systems.

The potential of Blockchain for logistics

For an industry - such as logistics - whose growth potential lies locked in paper-based legacy systems and siloed IT infrastructure, Blockchain technology will likely prove to be a game changer. The transformative power of Blockchain stems from its unique features, namely - data transparency, security, asset management and smart contracts. And, the transformation is under way even as you read this. Blockchain could possibly streamline the efficiency and transparency of supply chains, eradicate errors, avert frauds, and minimise expenses and so on. Thus, Blockchain technology provides the very foundation for the integrity, reliability and transparency in a supply chain.

The logistics industry has many stakeholders such as manufacturers, customers, suppliers, auditors, and many more. Blockchain technology can potentially benefit everyone in this value chain. It enables the tracking of products by customers and traces the end-to-end value chain of product manufacturing. Blockchain empowers auditors to easily verify and crosscheck any transaction. No piece of information stored in a Blockchain can ever be altered or changed by a third party, which enhances the security of this technology beyond that of any existing solution.

Unlocking value in logistics

Today, there exists a substantial amount of trapped value in logistics, mostly originating from the disjointed and competitive landscape of the global logistics industry. With a huge number of stakeholders across the supply chain, the logistics industry is riddled with low transparency, unstandardised processes, data silos and disparate levels of technology adoption. Moreover, several sections of the end-to-end logistics value chain are engulfed in manual processes as mandated by regional or global regulatory authorities. As a result, it becomes challenging to track the origin of goods and the status of shipments throughout their journey along the supply chain, leading to friction in global trade. Blockchain possesses the potential to help overcome these challenges in logistics, streamline operational efficiencies and optimise costs.

Most significantly, adoption of Blockchain technology translates into cost savings by empowering leaner error-free processes and enhanced automation. At the same time, it buffers the visibility and predictability of logistics operations, and adds impetus to the physical movement of goods. Source tracking of goods can lead to accountable, scalable and sustainable supply chains and support in addressing the challenge of product counterfeiting.



Blockchain in action in logistics

The adoption of Blockchain technology is already underway in the global logistics industry.

Here are a few examples –

- Maersk and IBM, through a Blockchain joint venture, are to manage and track container shipping via a trade digitisation platform constructed on open standards and created for use across the global shipping system.
- Lynx International, a subsidiary of Alibaba has effectively integrated Blockchain technology into its cross-border logistics network. This Blockchain-based system monitors all pertinent information on an imports shipment, such as details on production, transport method, Customs, inspection and third-party verification.
- Port of Rotterdam has launched its own Blockchain lab known as 'BlockLab.' Energy transition, cargo flow, and port logistic stock financing are some of the areas the lab aims to improve on with this transformative new technology.
- Mumbai Airport, India and Schipol Airport, Netherlands along with their partners for Cargo Community systems, Kale Logistics Solutions and Cargonaut have pioneered an initiative towards creating a Digital Air Corridor, powered by Blockchain technology, between India and the Netherlands.

With regards to specific applications in Customs, Blockchain would favour revenue compliance and cooperation between Tax and Customs. Blockchain makes fraud and errors far easier to detect because the system provides clear and transparent information about transactions and items in the network. Blockchain would help to combat financial crimes at Customs. Blockchain-based applications could be developed to help tackle emerging issues such as money laundering, terrorist financing and illicit financial flows with enriched red flag indicators. These are just a few of the applications of this technology in the arena of Customs.

Blockchain applications and benefits at ports and airports

Blockchain can be used by both airlines and airports to streamline the passenger identification process. It can also be used in identity management, security, check-ins and customs. Passports, travel records, Customs paperwork, employment passes and more can be digitised and stored on the Blockchain to minimise wait times and automate aspects of departures and arrivals. The other application of Blockchain in the aviation industry is - Identity Management. By validating identities with the help of biometrics, ticketing through tokenization and e-contracts and loyalty points and schemes when tokenised through Blockchain can provide immediate value to the users.

Ports and terminals will benefit from pre-built connections to shipping lines and other stakeholders, end-to-end visibility across shipping corridors and real-time access to more information to enrich port collaboration and terminal planning. Customs authorities will benefit from more informed risk assessment, better information sharing, less paperwork, and easier connections to national single window platforms.

In conclusion, Blockchain has the potential to facilitate optimal efficiencies and novel business models including swifter and leaner global trade logistics, higher transparency and traceability in the supply chain, and augmented automation of commercial procedures in logistics. Yet, gaining industry adoption is the most crucial challenge, one which will likely determine the success of Blockchain technology in logistics.

**DID YOU
KNOW** 

Logistics delivers over 4 billion meals to pubs and restaurants throughout the U.K. in a year.





Trade has long been a driving force of economic growth. New production systems, integration of global value chains and trends toward reliance on just-in-time delivery systems mean that more than ever, trade needs to be faster and more reliable. This calls for increasing the quantity and quality of information exchange.

A digital freight corridor between two countries enhances shipment visibility and optimum flow of cargo data. These digital data corridors can evolve from connecting one cargo network like cargo community in one country to the cargo community in the other country. These hubs can connect multiple countries using the simple principle of data federation and trust. The digital corridor can create optimal benefits for all stakeholders of the air cargo industry and could form the gateway to digital freight corridors between two countries. This integration will bring about seamless EXIM trade processing and build an eco-system of digital logistics network, which is cross-border covering the entire supply chain from importer to exporter. Thus this eco-system helps in creating smart borders for seamless trade, travel and transport.

The framework delivers a transformational level of maturity in the way stakeholders share data with other partners and of partners that they may not know. Digital documents shared have multiple versions. The framework allows in creating a record that is unique for each critical milestone.

Kale has conceptualized and is working in partnership with Cargonaut, a cargo community system provider in the Netherlands, in creating the world's first digital air freight corridor between Mumbai airport and Schiphol airport. This Digital Corridor aims at creating a completely transparent supply chain in the first phase through an exchange of real-time status of shipments between India and the Netherlands and in the second phase exchange of shipment data to eliminate duplicate processes. This pioneering initiative will help to reduce unnecessary administrative paperwork involved in shipment movement between the two countries, thus strengthening and easing cargo and data movement. The interface is capable of facilitating the exchange of cargo status at each individual location, followed by an interchange of actual shipment data. The platform forms a trusted network between Mumbai and Schiphol. This Digital Corridor will use IATA's ONE RECORD data format for APIs to exchange data.

Digital Corridors effectively connect Cargo Community Systems (CCS) at the respective countries on either side of the corridor.

Kale Logistics Solutions has come up with the latest technology - 'Digital Corridor,' an electronic collaboration to help all stakeholders to electronically communicate within themselves and with other stakeholders like Airlines, Ports, Customs House Agents, Customs, Banks and GHAs. This Digital Corridor aims at creating a completely transparent supply chain through an exchange of real-time status of shipments between different entities. Powered by the framework of Blockchain, it enables all players in the community to connect with each other on the basis of mutual trust, irrespective of type, size, modality and jurisdiction.

Some of the key benefits of Digital Corridor:

- **For the government as a whole:** increase in government revenue, enhanced compliance with rules, improved efficiency in resource allocation, and better trade statistics.
- **For economic operators, such as traders:** faster clearance times, a more transparent and predictable process and less bureaucracy.
- **For an administration such as Customs:** improved staff productivity through the upgraded infrastructure, increase in customs revenue, a more structured and controlled working environment and enhanced professionalism.
- **For the national economy as a whole:** improved transparency, governance and reduced corruption due to fewer opportunities for physical interaction.
- No settlement between participating data trusted facilitators who cooperate and facilitate each other with the exchange of data in a reciprocal way. (Pro-rata) Cost sharing of facilities that serve the network between network partners. Each participating PCS/CCS in NoTN charges its (own) users pay for use (own local policy).

DID YOU KNOW ?

Companies that outsource their logistics reduce shipping costs, on average, by about 13 per cent.



CRUX

In today's world quality is one of the important competitive advantages an organisation can have. How is technology making quality assurance very agile?

Santosh

Business today demand quality in solutions and services from the earliest stages of development lifecycle. Quality standards have improved in the last decade significantly through efficient engineering processes, operations, and system architecture. Quality Assurance is getting reinvented with sophisticated analytical tools, techniques, and frameworks, and is an area that is expected to grow big. With the advent of Agile and DevOps development technologies, the software development industry is undergoing major disruptions. This has led to the evolution of new testing approaches. The other technologies driving the quality and testing of software products are:

Machine Learning – It is effectively used to identify redundant and unique test cases and achieve test suite optimization. It can also help in predictive analysis, log analysis, and traceability of Requirements Traceability Matrix (RTM) to achieve test coverage.

DevOps - In DevOps, the quality assurance begins at the beginning of the development cycle. The functionality and performance of the application are tested continuously along with development.

Test Automation - repetitive actions are automated. Automation tools are used for both functional and non-functional testing.

Performance Engineering - Performance engineering will replace performance testing in the future. It is all about collaborating and iterating on the items of highest value and delivering these items quickly to ensure a high-quality product.

Some of the other trends that we may see are Internet of Things (IoT) which will improve reliability, scalability and data integrity. At Kale Logistics, our quality team is equipped with the latest tools and is has the prestigious International Software Testing Qualifications Board (ISTQB) certification.

CRUX

Kale Logistics Solutions has instilled a passion for quality in all corners of the organisation. How are you effectively bringing this in all your solutions?

Santosh

Quality Assurance (QA) plays a vital role in guaranteeing a level of quality for the end user and helps the software development team discover problems early on in the process. The Quality Assurance team ensures that all development tasks meet quality criteria through planning, execution, quality assurance and issue tracking.

We are proud to share that, at Kale Logistics Solutions, the defect leakage for the last fiscal year was 5% which is at a very good place. And, to take things further our Quality assurance team has recently been successful in procuring the ISTQB certificate, a prestigious international certification, which has skilled them to adopt the best practices and to maintain the highest quality standards.

At Kale Logistics Solutions, we focus on Customer Delight to build a headache-free and heartache-free quality assurance life cycle. Our Quality Assurance team is a customer-facing agile team, which not only hears out our customers' issues but tries to understand what features they would like to see in our product. On the other



Meet Santosh Singh – the man who has the final yea or nay on the products that Kale Logistics develops. The Quality Specialist who comes with a key twist – product specialist with depth and breadth of knowledge about quality principles, techniques and metrics. He shares his views on why Quality is becoming the de facto component to improve competitiveness.

end, we actively participate in design discussions, offering the input we receive from customers, interact with our customers to understand their expectations. In the process, the team focuses on automation along with manual testing and ensures raising the bar of all the quality processes with every project. Our unique platforms for automation, performance engineering, continuous testing and continuous monitoring are future-ready – in terms of delivering business value to our clients.

To have an edge over the competition, we need to be agile and open to reskilling our entire value chain. As a Quality Assurance (QA) Manager, I have to sign off on the quality of a major release every three to six weeks. Each major release normally includes two new features as well as stability issues and bug fixes. In addition, our code testing knowledge and experience helps us identify design flaws before any coding is done, which significantly shortens development cycles and helps us meet customer expectations as we release new versions. Before a new release cycle begins, our team meets with all the stakeholders to understand which parts of the product need to be touched by new or updated code and uses that information to prioritize our testing efforts. Hence, I can proudly say that we have a very efficient and effective Quality Assurance team which gives their optimum best.

CRUX Kale is now CMMi certified, how has it impacted the overall quality output?

Santosh We are a learning organization. Whatever we do, wherever we do and whomever we do it for, we aspire to be the best. For all the markets that we are working in with enterprise-class customers, we provide them with world-class solutions with the support of world-class Quality Assurance. We are today a CMMi level 3 certified organization and can definitely say, that it's another feather in our cap. It has contributed towards an invaluable support environment for Quality Assurance managers and teams in setting up processes.

Verification and validation are an integral part of the overall development process expanding the scope and visibility of the product life-cycle and quality check activities to confirm that the product meets the client's expectations. As CMMi incorporates diverse lessons from the best practices in measurement, risk management and test management it has helped us in the implementation of robust high-maturity practices which fully complies with ISO standards. The CMMi model is a collection of a set of very effective and reliable best practices. These practices have helped us as an organization to improve quality standards and efficiency resulting in customer satisfaction. It has helped us achieve targeted cost savings by ensuring stability and consistent high performance.

CMMi has enabled increased effectiveness and efficiency of test activities along with aligning quality check with organizational priorities and other project processes, thereby improving both real and perceived value of quality to the organization. Mapping of software testing with peer reviews has furthermore streamlined the testing process. The CMMi model certainly improves and evolves the quality of the software delivered, thus bringing in transparency and modification of the organization as a whole.



DID YOU KNOW ?

Logistics actually has two main focus directions, internal and external (inbound and outbound), although most companies only focus on one.



Air Cargo Africa (ACA), (S. Africa)
Feb 19 - 21, 2019



World Cargo Symposium (WCS) Singapore
March 12 - 14, 2019



National Conference on Logistics Policy (Delhi)
Feb 19 - 20, 2019



CII partnership Summit - Mumbai
Jan 12 - 13, 2019



Kale launches its global [website](http://www.kalelogistics.com)



Watch our latest [corporate showreel](#)

Forthcoming events



WCO's IT/TI Conference & Exhibition Baku, Azerbaijan,
June 12 - 14, 2019

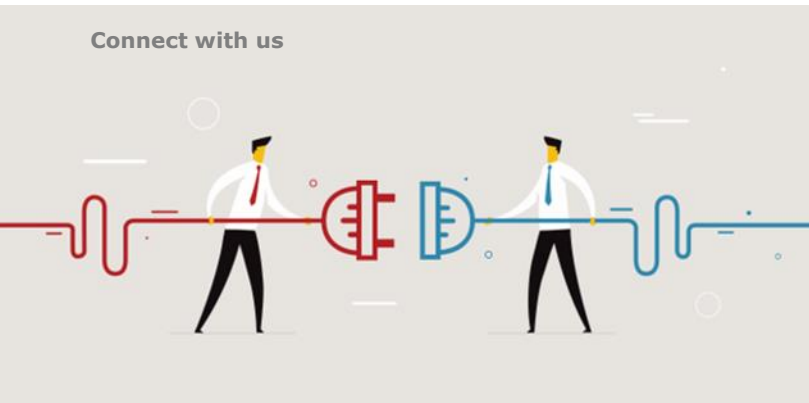


Forthcoming events
Deloitte's Global Trade Advisory Conference - EMEA 2019
Barcelona, Spain, May 22 - 24, 2019



Messe München's transport logistic 2019 Munich, Germany, June 4 - 7, 2019

Connect with us



Kale Logistics Solutions Private Limited

9th Floor, Thane One Corporate Business Park,
Behind CineWonder Mall, Majiwada,
Thane (W), Maharashtra, INDIA - 400 610.

+91 22 4113 4113

+91 22 4113 4123

info@kalelogistics.com

www.kalelogistics.com



Mumbai | Delhi | Dubai | Mauritius