BUSINESS TRANSFORMATION

THE CHANGE TO FUTURISTIC BUSINESS

FEBRUARY 2019

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Deep Bhogal, Managing Director of Denaster General Trading.

TRANSFORMING RETAIL SUPPLY CHAIN USING CLOUD

Denaster is using Oracle NetSuite Cloud to manage fast moving consumer technology goods with high rate of refresh across prestigious retail outlets.

Zahir Moghal, Delma Exchange

Jacques Von Benecke, OSN

Khadim Al Darei, Al Dahra

Ahmed Al-Khars, Marafiq

TELEPHONY COMMUNICATIONS OPENS CUSTOMER CHANNELS AND GENERATES ANALYTICS FOR DELMA EXCHANGE

OSN REBUILDS MENA CONTENT PROGRAMMING USING SNAPLOGIC MULTICLOUD PLATFORM

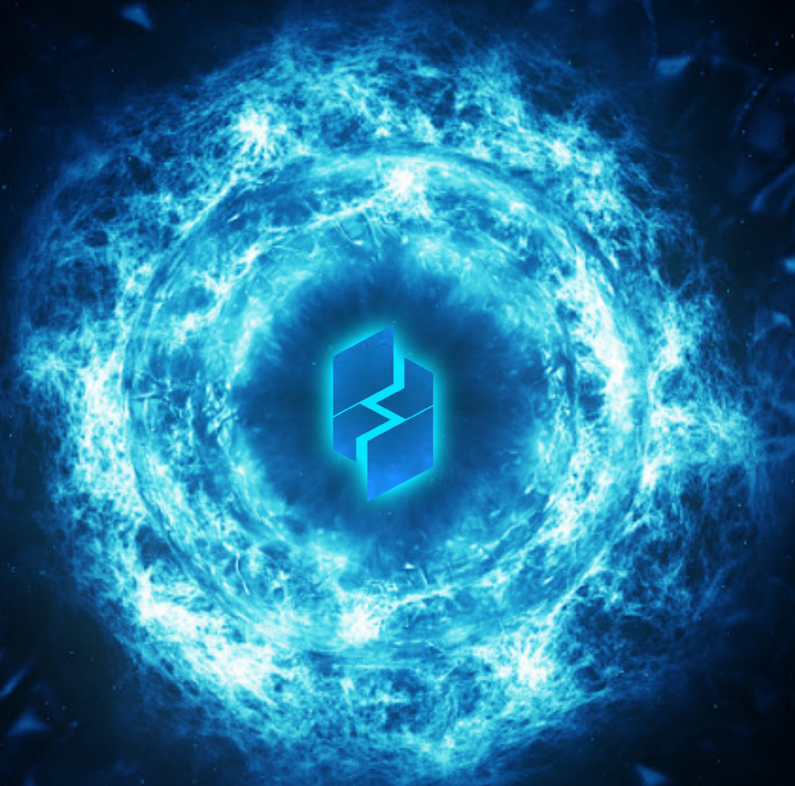AL DAHRA TO TRANSFORM AGRIBUSINESS USING SAP ARIBA CLOUD FOR SOURCING, PROCUREMENT

SAUDI ARABIAN POWER UTILITY MARAFIQ PARTNERS WITH SAP FOR DIGITAL TRANSFORMATION

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FEBRUARY 2019

ⵊⵊⵊ ZEBRA CAPTURE YOUR EDGE

Transportation & Logistics Solutions

Empowering your performance edge.

Dear Readers,

According to Dimension Data's Group CTO Ettienne Reinecke, 2019 will finally see digital transformation become a reality. He predicts a spate of industry-wide disruption as innovative companies see long-term projects bear fruit. The recently concluded Oracle OpenWorld Middle East in Dubai, UAE seemed to reflect that positive optimism towards business and technology transformational projects in the region.

Present onsite during the event, Platinum Partner Evosys' CEO Umang Nahata pointed out that, as a key Oracle channel partner, the engagement with Oracle has become much deeper. Oracle cloud channel partners in the region are now enabling their end customers to migrate from on-premises to the cloud based on expected return on investment, process improvement, and longer-term expectations of innovation. By switching to an on-demand, pay as you go subscription model, both cloud channel partners and end customers need to remain continuously engaged with each other to move forward and justify each other's involvement. Nahata points out, for this reason, the engagement cycle has become much longer, and much more proactive with customers.

Javier Torres, Vice President EMEA, Alliances at Oracle, says that transformational technologies like blockchain, IoT, machine learning, cloud are changing the business for end customers, Oracle and the channel partner ecosystem. In the past, for Oracle, the traditional partner ecosystem was focused on selling products. But now, selling is no longer the bread and butter for Oracle's partner ecosystem. Torres points out it is also about innovation and embracing new technologies like IoT, blockchain, and machine learning. Increasingly in this new world, it is not just about selling. Regional end customers now want to move to the cloud not just for financial benefits but also because they are able to innovate faster. And Torres says, they have really seen adoption picking up in the last two-three years.

In our Use Cases section, we present Saudi Arabia's Umm Al Qura University that is implementing Oracle's Autonomous Database. This will help the University to deliver paperless educational services to more than 100,000 students across 36 colleges in 5 campuses. Umm Al Qura University receives nearly 35,000 applications for Bachelors' Degree programme and 50,000+ applications across all degree programmes. In 2018, only 40 services were online, and now using Oracle Autonomous Database, the University will offer 200 sub-sites with personalised editors and publishers.

Other use cases in Saudi Arabia include SAP's implementation at Marafiq and Al Dahra. We also excerpt and present consultative findings from IDC's digital transformation report on Saudi Arabia, titled, A Digital Government Vision for the Kingdom of Saudi Arabia. And BT, Business Transformation kicks off its first BTX 2019 road show in Saudi Arabia on 25 March.

If you have not registered as yet do visit btxshow.com.

Look forward to transformational engagements at the BTX road show.

Arun Shankar
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WHAT'S THE DIFFERENCE BETWEEN DIGITAL AND DIGITALISATION

Businesses cannot transform without going digital while digitalising processes for customers, explains Elizabeth Hackenson at Schneider Electric.

*ELIZABETH HACKENSON, CIO
Schneider Electric.*

There is no question about it. The role of today's CIO in the digital world is changing faster than ever. As CIOs, we no longer just manage IT systems and services across an enterprise. Instead, we are key contributors to shaping and driving a company's digital transformation or DX strategy. After all, digital inherently is a customer-centric value proposition, so we are instrumental in ensuring that every level of an enterprise hinge around the customer.

DIGITISATION VERSUS DIGITAL

Let us start at square one. CIOs have been grappling with the terms digitisation and digital, sometimes without pause to clarify any confusion or conflation of these very different concepts. We can look to the airline industry for a strong example. Remember a decade ago when we had to interact with a human ticket agent to get a boarding pass, waiting for the agent to feverously type something in order to pop out the printed pass? Now, airlines have digitised the process – it is automated.

Most carriers have gone digital as well, meaning that they have created a user experience that gives customer value to digitisation. Creating apps, providing customer-friendly kiosks that eliminate the mystery and complexity of getting a pass.

Digital is a business imperative in most industries, and digitisation is an important enabler of digital. Digitisation on its own, however, will not make a business a digital company. It is critical that we communicate what these terms mean to the teams driving these transformations behind the scenes.

DIGITAL STRATEGY ROADSHOW

Communicating your overarching digital value proposition throughout your company is vital. Doing so empowers and inspires your employees, allowing a true digital journey to unfold. The moment you have a well-defined, strongly governed digital strategy and plan, connect the dots across your enterprise. And do not be concerned about sharing the message multiple times in varied ways.

During your roadshow, take the time to engage your employees in order to:
• Question business as usual
• Go from global to local to learn from within
• Simplify, simplify, simplify

TRANSFORM PEOPLE AND BUSINESS

Every company is facing a unique digital maturity curve across operations. Make sure your enterprise IT organisation can lead the pack. Given the constant evolution of technology, continuous learning and training are critical. Upskilling keeps your IT professionals ahead of the curve, while sparking their curiosity to soak in the excitement around new tech.

With this approach, something amazing starts to happen: you drive people to think differently by respectfully challenging the why? in a relevant way. In short, you are cultivating a culture of empowerment to accelerate your company's digital transformation, led by your group's digital evangelists who are motivated to seize the art of possibility. ■

TOSHIBA
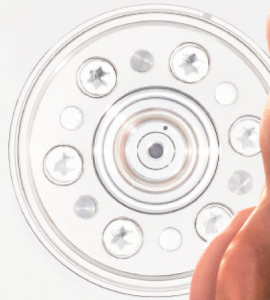
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FIVE STEPS FOR SERVICE PROVIDER TRANSFORMATION

Ericsson's Indranil das explains five steps that service providers need to take to become automated and agile.

INDRANIL DAS, Head of Digital Services, Ericsson Middle East and Africa.

The future is digital, and digital service providers will lead the way. From enhancing the way, you engage with your customers to automating operations, service providers reach new levels of programmability, access and agility – levels that digital natives call home.

What does it mean to become a digital service provider? Here is a five-step framework that can help service providers prosper in the digital economy:

#1 BUILD CLOUD INFRASTRUCTURE

Cloud infrastructure is the foundation for 5G and IoT. The scale and performance requirements of 5G and IoT demand a different approach to digital infrastructure. Increase speed, efficiency, and agility in offering new services while reducing risk and shortening lead time while you transform the network.

#2 GO TO MARKET WITH VOLTE

Whether you are a service provider with millions of customers or just thousands of users, you have your own cloud datacenter, or you want a full-stack solution for Voice over LTE services, there is an industrialised solution that will suit your requirements.

The same is true if you are a Mobile Virtual Network Operator or mission-critical service provider looking for an easy way to get both mobile broadband and voice services over LTE and Wi-Fi ready in your network in one step. You can deploy VoLTE in weeks now allowing a quicker time to market.

#3 BOOST REVENUE WITH DIGITAL BSS

Digital business support systems are key to uncovering new revenue streams. Customer experience is vital for a successful transformation to a digital business, and digital business support systems are in the center of this change.

Businesses cannot deliver an agile digital customer experience with the transformation of the front-end experience alone. It needs to be a complete business transition – to put in place the end to end tools and processes to make real the goal of delivering a truly digital, simple, one-click business.

#4 NEW REVENUE STREAMS FROM NETWORK SLICING

The IoT era has the potential to transform industry and society, and with 5G on the horizon, countless new business models become a possibility. IoT services come with their own complex connectivity and performance-related challenges.

Network slicing is a virtualisation capability which allows operators to segment the network to support particular services and deploy multiple logical networks for different service types over one common infrastructure.

#5 CLOUD NATIVE DESIGN

In the next few years all telecom applications will be cloud natively designed so as to increase efficiency and utilisation of the cloud infrastructure. Benefits include increased speed of software upgrades and releases plus improved granularity, and enhanced automation through already embedded features in cloud infrastructure for NFV.

By finding the right blueprint for their businesses, service providers can reach new levels of agility, access and automation. ■

HOW TECH SCANNING AND PRODUCT CYCLES ARE LINKED

Regularly scanning the technology horizon can help separate fads from real market disruptions explains Jonathan Davenport at Gartner.

JONATHAN DAVENPORT,
Principal Analyst, Gartner.

KEY TAKEAWAYS

- Aim of horizon scanning is to gather signals of change that provide insights into the product's life cycle.
- Farther into the future we look, weaker the signals about potential disruptions.
- Product managers must distinguish between short-term fads and disruptive technologies that can be leveraged for competitive advantage.
- Product managers need to be data-driven in horizon scanning to separate fads from true disruptions.
- A disruption results in rapid adoption by mass market cannibalizing traditional sales and creating a whole new market.

Product managers can improve product life cycle management by scanning the horizon to spot truly disruptive technologies. However, there is a big difference between scanning the horizon using a mystical crystal ball and using a radar system.

One portends to show you a specific future with no evidence base behind it, while the other uses a scientific approach to provide a rougher, yet more useful, picture of what objects exist in your sphere of visibility so you can plan, decide and act.

Product managers need to be data-driven in their horizon scanning to separate fads from true disruptions. Adopting a data-driven approach helps to identify potential new products or feature additions that are needed to deliver the innovations vital for future product and business success.

Technology product managers must distinguish between short-term fads, which are a distraction, and disruptive technologies that can be leveraged for competitive advantage while reducing risk. A disruption is a technology adopted by a market, often surrounded by a lot of hype, which results in rapid adoption by the mass market, cannibalizing traditional sales and creating a whole new market.

The farther into the future we look, the weaker the signals about potential disruptions become. By systematically looking to previous technology fads or disruptions in the industry, it may be possible to identify markers to assess the potential disruptive impact of a new technology.

Ask and answer six key questions to spot relevant disruptive technologies.
- What might the new technology disrupt within my business or market?
- When will the impact of this disrupting technology be felt?
- What fundamental change does this new technology create or drive?
- Does the technology reduce my total addressable market?
- Is the technology more cost-effective to deliver?
- Is the technology easier to plan-build-run?

This assessment can help inform the product roadmap, research, organisational planning and other forward-looking activities.

Scan the technology horizon to become better at seeing disruptions as they emerge, and differentiate them from fads and technology that will add new product features. The aim of horizon scanning is not to predict what will happen, but to gather signals of change that, when taken together, provide insights into the future development of a product's life cycle. ■

TRANSFORMATION SOLUTION PROVIDERS NEED TO PARTNER

As enterprises transform themselves, solution vendors need to integrate their platforms through partnerships, explains Claude Schuck at Veeam.

CLAUDE SCHUCK, Regional Manager for Middle East and Central Africa at Veeam.

The power of partnerships has become very clear in the digitally disrupted world. Businesses in a whole host of sectors are busily working with technology providers to create innovative and exciting propositions, using the newest technologies. Some partnerships deliver much needed technical expertise, such as Audi working with Huawei on its connected car.

Collaborations can also be surprising but despite this stand the test of time. Hewlett-Packard and Disney partnership goes back to when Mr Hewlett, Mr Packard and Mr Disney were still involved in the main decisions of their respective companies. Despite coming from entirely different industries, their collaboration has allowed both organisations to continually innovate.

By contrast, software companies themselves have historically believed that the value of their organisation lies in the software itself, often preferring to go it alone, building walls and creating closed products.

Many technologists seek a level of openness from vendors, even those pursuing software, that is fundamentality closed or proprietary. To put it simply, software can only truly exist today through partnerships between vendors, and in modern IT environments it is a marriage of storage, compute power, networking and applications that gets the job done.

When it comes to solving one of businesses' biggest challenges, making use of data for business growth while simultaneously keeping it safe, there really is only one option; work together. Collaboration is fundamental to success.

Modern software must have a mix of interoperability, the ability to exchange and work with data from other software, and portability can run in more than one environment and operating system. And, it must go beyond simple gestures from a software marketing department.

Partnerships enable collaborators to draw on each other's expertise, access wider markets and develop innovative, complementary products and services. That is why it is estimated that ecosystems could deliver an additional $100 trillion of value for business and wider society over the next 10 years.

Perhaps the most important aspect of partnerships is the ability to orient solutions around the customer and what they need. And when it comes to the world of technology, one of the most critical and urgent business needs is being able to access the full value of data.

Data can be immensely valuable for every business. Using data, organisations can gain important, actionable business insights, from understanding their customers and what they want through to predicting trends and putting the business in the best position to capitalise on them.

Organisations face a huge challenge, however, when it comes to extracting value from their data.

BY DEVELOPING RELATIONSHIPS WITH PARTNERS, DATA MANAGEMENT PLATFORMS CAN PROVIDE HYPERVISOR INTEGRATION, STORAGE INTEGRATION AND INTERFACES WITH CRITICAL APPLICATIONS.

KEY TAKEAWAYS

- Collaborations can also be surprising but despite this stand the test of time.
- Data represents one of the greatest opportunities for enterprises today, but it is equally one of its biggest challenges.
- With data scattered across the enterprise, it is much more difficult and critical to ensure data availability.
- Businesses face the immense lost opportunity of missing out on insights and flawed analysis.
- Software providers can deliver exceptional data availability for their customers by working together to create a strong digital ecosystem.

It is not only the sheer volume of data, which is growing all the time, but the fact that it is spread out across a whole range of databases, cloud providers and on-premise stores.

With data scattered across the whole enterprise, it is both much more difficult and critical to ensure data availability for everyone in the business. This is an extremely pressing issue, as businesses face the immense lost opportunity of missing out on insights and flawed analysis. But it is challenge that is being addressed through the power of partnerships

Software providers can deliver exceptional data availability for their customers by working together to create a strong digital ecosystem. That means the providers of both cloud and on-premise solutions coming together in one platform, to deliver a seamless experience for the customer. By developing close relationships with partners, data management platforms can provide hypervisor integration, storage integration and interfaces with critical applications, all in one place.

The hybrid cloud and multi-cloud computing environment presents particular data protection challenges. For instance, while cloud vendors offer their own backup, snapshotting and high-availability solutions, those approaches all require that technologists learn and understand vendor-specific services.

Again, this is where partnerships between software providers can help. Hardware and software

providers can leverage application programming interfaces to provide customers with the integration that they need.

In short, creating this close-knit environment means that data is readily available for customers, no matter where it is stored in the enterprise, or which endpoints or devices they wish to use to access it. CIOs can gain a view of their organisation's entire IT infrastructure, benefitting from improved operational efficiency and outcomes. Meanwhile there are advantages for managed service providers too, who can gain management capabilities across disparate providers.

Businesses then benefit from a single management solution for their data protection, no matter how many providers they use. In essence, this streamlines backup workflows, and creates stronger data protection across the business.

Data represents one of the greatest opportunities for enterprises today, but it is equally one of its biggest challenges. No single provider can provide all the answers when it comes to the issues of data availability and protection in such a diverse IT landscape.

Through collaboration, however, the IT community can deliver a seamless and convenient experience for all businesses. Going it alone will not cut it, but through the power of partnerships software companies can enable enterprises to access and protect their data. ■

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BUSINESS RESTRUCTURING REQUISITE FOR TRANSFORMATION

Organisations will be compelled to relook at their structure to enable digital transformation across 2019 explains Paul Potgieter at Dimension Data.

PAUL POTGIETER, Managing Director UAE, Dimension Data.

As organisations get moving on the digital transformation road map, they may abruptly find themselves running more on a bumpy dirt track rather than a Formula One race course with expected high-speed pit-stops. The learnings from this experience are sometimes hard to accept.

One of the key reasons for the bumpy track is that existing organisational structures are often incompatible with the requirements of delivering digital experiences to customers. Organisations need to take a deep breath and start relooking at their structure from the point of view of the customer rather than traditional departmental silos and legacy job functions.

One of the key changes likely to happen across 2019 is that organisations moving down the path of digital transformation will restructure to bring in flexibility so that they can refocus on what the customer wants.

Digital technologies will be leveraged to enhance the customer experience and project teams will work together to rebuild the organisation around customer data, innovative experiences, revamped business processes, and redesigned job roles. This will help the organisation to move forward rather than face resistance, similar to fitting a square peg into a round hole.

Other than organisational structure, another area that will need revamp in 2019 will be the approach around generating, accessing and analysing customer data. Organisations beginning their digital transformation exercise will quickly realise that they have a lot of data that they do not need, and very little data that they do need, to begin their journey into understanding customer insights. Organisations will need to build new processes to generate the data that they do need and also build new structures to aid in the analysis of that data.

In order to build their repositories of insightful and valuable, customer centric data across 2019, organisations will be successful this time around by investing in the Internet of Things. By investing in sensors, devices, applications, connected core and edge networks, across entire business processes and supply chains, organisations will begin to realise how to generate their return on investments through customer data aggregation and analytics.

Not only will organisations be

> ORGANISATIONS ADOPTING AN ACTIVE ROLE OF BUYING-IN MANAGED TECHNOLOGY SERVICES, WILL FIND THEMSELVES MAKING ACCELERATED PROGRESS IN THEIR JOURNEYS.

AUTOMATION USING ROBOTIC PROCESSES WILL DRIVE HUGE GAINS ACROSS 2019 AS MACHINE LEARNING, NEURAL NETWORKS AND ARTIFICIAL INTELLIGENCE ARE ADDED.

KEY TAKEAWAYS

- Organisations moving down the path of digital transformation will restructure to bring in flexibility so they can refocus on what the customer wants.
- Another area that will need revamp in 2019 will be the approach around generating, accessing and analysing customer data.
- One of the reasons for the bumpy track is that existing organisational structures are incompatible with requirements of digital experiences.
- Organisations need to start relooking at their structure from the point of view of the customer rather than traditional departmental silos and legacy job functions.
- One of the key changes likely to is that organisations will restructure to bring in flexibility so they can refocus on what the customer wants.

more successful in 2019 by investing in the Internet of Things, for their own data analytics, but they will also begin to see the value in blending into their data, repositories from third party data sources.

This may include data from open data platforms maintained by national government agencies such as weather, population demographics, urban statistics, vehicular movements as well as open data repositories from global agencies. By building correlations between their own data and other third-party data sources, organisations will better model customer behavior and responses in a predictive manner, yielding better return on investments and net new revenue sources.

Successful availability of data across the entire customer experience and business supply chain will give organisations the confidence to open up their inventory and delivery in a real time manner to suppliers, partners and end-customers. As suppliers, partners and end-customers get access to not only current levels of product and stock availability but also future levels in a predictive manner, they will also begin to engage in a more proactive manner.

This enhanced level of supply chain forecasting with predictive demand levels, combined with ERP, CRM, artificial intelligence, robotics and automation, promises to be one of the exciting new trends in 2019.

Automation using robotic processes will drive huge gains across 2019 as machine learning, neural networks and artificial intelligence are progressively added to the complete end to end of business processes. Geographical compliance challenges coupled with market behavior will be a key driver for the adoption of more and more automation driving predictive behavior of demand levels for a product or service.

Other drivers for the adoption of robotic process automation will be the ability to reduce costs of operation, enhanced support levels for customer demands, and ability to deliver personalised experiences effectively.

As organisations begin to make progress in their digital transformation exercise in 2019, another key learning and realisation for them will be the availability of prebuilt digital technology services, frameworks, and platforms. As much as possible, digital transformation adopters need to reach out and access service partners who have prepared such tools and building blocks for them.

There is little need for such organisations dabbling in the early stages of digital transformation to start building the blocks themselves or start tackling the complexities of creating such platforms.

It is far easier to leave the challenges and complexities of building and managing the digital technology components of 2019 to vendors and their service partners and focus on making progress in the organisation's digital transformation objectives. Organisations adopting an active role of buying-in managed technology services, will find themselves making accelerated progress in their journeys.

They will also find it easier to invest and build scale around pre-tested, compliant and secure platforms, that are reliable building blocks for their onward transformation journeys. Success in 2019 appears to be more predictive than before. ∎

BIZ TRANSFORMATION MOVING FROM HYPE TO REALITY

The confluence of artificial intelligence, automation and blockchain will drive real productivity gains across business, explains Ahmed Adly at Oracle.

AHMED ADLY, Senior Director Cloud Computing Leader, Oracle MENA.

In a way, 2018 has been like the TV series of Ninja Warrior for emerging technologies with artificial intelligence, automation, data and blockchain the key competitors trying to surmount the many obstacles and challenges in their way. And, like the programme, so far these technologies have played hard and achieved much, but failed to win the big cash prize and become the overall winner.

So, with 2019 looming, which of these will become the overall champion? In fact, will there be an overall champion?

ARTIFICIAL INTELLIGENCE

Artificial intelligence will be key, but only if companies can tame this data athlete, and understand how to apply it within the confines of the business. With Ovum's ICT Enterprise Insights Survey anticipating that 60% of organisations will have an enterprise-wide strategy for artificial intelligence in 2019, we expect a lot more companies to look for practical ways to bring artificial intelligence into the business. A key path will be through having artificial intelligence embedded into their applications. Why?

Not only will this give them a way of bringing artificial intelligence to the masses through means they already feel comfortable with rather than fearing the rise of the robots, it will also mean that eventually, it will be saturated into the infrastructure and become prevalent in all of a business system.

As a result, we are already seeing applications change before our very eyes. Conventional back office applications are becoming legacy. They are being reinvented with innovative front ends and aggressive commercial automation. Looking ahead, transformation is only going to become more widespread.

PRODUCTIVITY

One of the key business drivers for artificial intelligence adoption is its immense power to increase human productivity and business efficiency. A recent survey of international senior decision makers showed 42% are already looking to artificial intelligence technology to improve efficiency within their organisation. And, with ongoing improvements to its cognitive artificial intelligence capabilities, those gains are only going to get bigger.

Looking ahead, we predict that by 2025, the productivity gains delivered by artificial intelligence and augmented experiences could be as high as 50% compared to today's operations. That's nothing short of transformational.

Gartner predicts that by 2022, 90% of corporate strategies will explicitly mention information as a critical enterprise asset, with analytics

> BLOCKCHAIN WILL NOT ONLY START TO BECOME MORE COMMONPLACE IN BUSINESS IT WILL ALSO BECOME THE KING OF TRANSPARENCY AND TRUST IN 2019.

KEY TAKEAWAYS

- As the levels of data currently at hand are too much for humans to handle a new approach is needed.
- McAfee's 2019 Cloud Adoption and Risk Report showed the average organisation will find only 1 out of 100 million events to be a threat.
- What if the complex data management systems that turn data to insight could be made as self-driving, self-repairing and self-securing.
- Automation will start to permeate throughout business with 70% of IT functions completely automated.
- Companies can refocus teams from billions of work hours spent performing routine IT tasks instead on innovation and business development.

becoming an essential competency. As the levels of data currently at hand are too much for humans to handle, a new approach is needed.

In fact, it is critical because businesses are starting to realise they need to be better handling their data if they want to really capitalise on it and execute on artificial intelligence or IoT investments.

AUTOMATION

What if the complex data management systems that turn data to insight could be made as self-driving, self-repairing and self-securing. What if it could be made as easy as the concept of the self-driving car?

In fact, we believe automation will start to permeate throughout business, with 70% of IT functions completely automated, enabling companies to refocus teams from the billions of work hours spent performing routine and even mundane IT tasks each year and instead on innovation and business development.

Many security tasks, meanwhile, will have to be automated, given the number of security events are predicted to increase 100x. McAfee's 2019 Cloud Adoption and Risk Report showed the average organisation will find only 1 out of 100 million events to be a threat, but with the volume so high, finding the needle in the haystack will be impossible without automation.

Furthermore, customer experience and automation will go hand-n-hand, with 70% of customer interactions automated and artificial intelligence-enabled chatbots ushering in a new era of experiences. Already today, 89% of people use voice assistants for customer service, and 69% of enterprise customer service functions use chatbots for easy, frictionless, anywhere, anytime engagement.

Increasingly, this will move from being a nice to have to becoming a basic customer expectation across nearly all markets. For that reason, we predict 85% of all interactions will be automated.

BLOCKCHAIN

Blockchain will not only start to become more commonplace in business, it will also become the king of transparency and trust in 2019. This comes from the realisation that it can be used to do far more than validate monetary transactions.

Already, we are seeing the technology being used to certify the ethical production of extra virgin olive oil, for tracking solar energy usage and to bring a single source of truth into the documentation processes underpinning the global shipping industry.

In 2019, we will see it being used in even more broader contexts; from verifying the authenticity of precious stones, to tracking the source of food contaminations and on to confirming drugs are produced in accordance with stringent industry regulations.

It will also, like artificial intelligence, creep into day to day business as it too becomes integrated into business applications, and as they say, out of sight is out of mind. So, which will win? All will fare well, and 2019 will definitely be the year when we see some of the industry's biggest buzzwords go from hype to fulfilment. ■

Telephony Communications opens customer channels and generates analytics for Delma Exchange

Delma Exchange, a UAE based global currency exchange has partnered with Telephony Communications Technologies to deploy Avaya IP Telephony Solutions across its network of offices and exchanges in the UAE and other branches internationally. The implementation will help Delma Exchange enrich its communications experience for customers and will lay the foundation for future upgrades.

The ability of Avaya IP Telephony to interconnect various business applications has been the key driving factor for choosing the platform. With the call centres now connected and detailed reports being generated, analytics play a major role in helping Delma Exchange take more data-driven business decisions. The availability of new channels of communication has also aided employees to engage voice and video, thereby enhancing end user experiences and improving customer satisfaction.

Delma Exchange operates 6 branches across the UAE and Middle East region and other branches internationally. The key challenge faced by Delma Exchange was

ZAHIR MOGHAL, CEO Delma Exchange

ensuring that their customers were able to reach their dedicated account managers without having to go through an operator to conduct time sensitive currency transactions. This was not possible through the existing conventional EPABX

system. The exchange also wanted to ensure that their internal offices, call centres and head offices were connected to allow for the same level of efficiency across locations.

With conventional methods of communication no longer being sustainable to ensure business efficiency, Delma Exchange's aim was to eventually have the IP Telephony systems form the backbone of its communications with the system connecting to the online chat and calling system, website, and call centre. After evaluating several vendors, Delma Exchange chose Avaya as its preferred IP telephony partner for its product superiority, ease of implementation, cost, scalability and after sales support.

The Avaya IP Telephony system currently supports 200 licenses, is centralised and hosted partially on the cloud and devices on premise, and seamlessly integrated with the exchange's core business solutions. The system currently connects seven branches and two offices in the UAE, and will be extended to cover rest of the branches and other international offices. The solution was deployed through Delma Exchange's long-term technology partner Telephony Communication Technology. Delma Exchange's future communications roadmap includes eventually deploying a UC platform to include BYOD, and the project will run in parallel to the exchange's other ITC projects.

"Improving the happiness index and level of service satisfaction for our customers is the core of our mission. Speed and efficiency of communications is crucial ensure satisfied customers, and to allow them to transact with dedicated dealers and currency experts without delay," said Zahir Moghal, CEO Delma Exchange. ■

KEY TAKEAWAYS

Strategy
- Ability of Avaya IP Telephony to interconnect various business applications has been driving factor for choosing the platform.
- Aim was to have IP Telephony systems form the backbone of communications connecting to online chat, calling system, website, call centre.

OSN rebuilds MENA content programming using SnapLogic multicloud platform

JACQUES VON BENECKE, Chief Digital Officer at OSN.

NEERAV SHAH, General Manager for SnapLogic EMEA.

With television broadcast rights across the MENA region, OSN has a history of providing value for customers with its focus around on-demand content, and digital platforms. OSN's strength is its programming led by its long-term partnerships with major studios including Disney, HBO, NBC Universal, Fox, and Paramount to name a few.

OSN has been at the forefront of digital technology innovation in MENA, introducing firsts to the region with both its OSN Play and OSN On-Demand offerings. The company is modernising its existing technology systems and recently shifted to a new multi-cloud hybrid architecture to become even more efficient and ensure a seamless service for customers.

SnapLogic, provider of intelligent integration platform, announced that OSN, a leading entertainment network across the Middle East and North Africa, has selected SnapLogic's Intelligent Integration Platform to modernise its IT environment and support its use of cloud services across the organisation. Using the SnapLogic platform, OSN has successfully implemented an effortless migration path from its existing systems to new cloud-based systems, including Microsoft Azure SQL Data Warehouse, with minimal manual coding requirements.

SnapLogic is also being used by OSN for the ongoing maintenance of its hybrid cloud architecture, ensuring that data across the business is available in the right place at the right time with little manual integration effort required. By automating and accelerating system integration, OSN can spend more time responding to changing customer requirements and delivering new value-add programming and services.

Jacques Von Benecke, Chief Digital Officer at OSN, commented: "We are constantly looking for ways to provide the best possible experience for our customers. To continue to do that, it is critical that we have a modern, flexible technology infrastructure which is fully integrated. With SnapLogic, we have been able to vastly reduce the time and effort required to get this in place, enabling us to develop new features and functionality based on our customer needs efficiently."

Neerav Shah, General Manager for SnapLogic EMEA, added: "OSN is an organisation that is committed to the smart use of modern technology to deliver a best-in-class customer experience. We are proud to be part of their next technical evolution, which will see the organisation benefit from intelligent integration across the entire business." ■

KEY TAKEAWAYS

Strategy
- OSN's strength is its programming led by long-term partnerships with studios including Disney, HBO, NBC Universal, Fox, Paramount.
- OSN has been at the forefront of digital technology innovation in MENA, introducing OSN Play and OSN On-Demand offerings.
- The company recently shifted to a new multi-cloud hybrid architecture to ensure seamless service for customers.

Al Dahra to transform agribusiness using SAP Ariba cloud for sourcing, procurement

Left to right Mohammed Al Khotani, Head of SAP Ariba, Middle East and North Africa; Khadim Al Darei, Vice Chairman and Co-Founder, Al Dahra; Gergi Abboud, Senior Vice President and General Manager, SAP Middle East South.

Procurement in the agriculture business can be complex as it requires compliance with strict regulations that are put in place to safeguard consumer health and environmental safety. And for a global agriculture business with operations in several countries this can be even more of a challenge. Facing this, Al Dahra, a multinational agribusiness specialising in farming and trading, serving more than 45 markets around the world, will implement SAP Ariba in its efforts to digitise and centralise procurement to drive greater efficiency, cost savings and compliance to fuel its growth.

Al Dahra is a prominent multinational vendor in agribusiness, specialising in the cultivation, production and trading of animal feed and essential food commodities and end-to-end supply chain management. Serving a large customer base spanning the government and commercial sectors, Al Dahra has a widespread geographic footprint, with a workforce of 5,000 employees, operating in over 20 countries and catering to more than 45 markets, with a leading position in Asia and the Middle East.

The group manages and operates a land bank in excess of 400 thousand acres of land with 1,200 pivots and a fleet comprising more than 2,000 farming assets. In addition, the company owns and manages 15 state-of-the-art forage processing and baling facilities and has the capacity to produce and supply 3 million metric tons of alfalfa and grasses annually, catering for the needs of the dairy and cattle industries.

It is also a player in the production, packaging, marketing and distribution of grains, operating 3 rice mills and 2 flour mills with the capacity to produce 500,000 tons of flour and 500,000 tons of rice, annually. It further owns and operates a grains hub strategically located at the Fujairah port in UAE with 20 silos and more than 300,000 metric tons storage capacity. Al Dahra has also made considerable investments within the logistics and supply chain sector. It moves about 2 million metric tons, annually and ships 175 thousand TEUs.

By connecting to the Ariba Network and the cloud-based applications for sourcing and procurement delivered on it, Al Dahra will transform its procurement operation in its efforts to achieve various goals:
• Reduce expenses by at least 15% within a year
• Centralise and standardise procurement across its global operations
• Optimise its cost structure to benefit from economies of scale
• Drive greater efficiency with faster end-to-end transaction cycles
• Improve strategic sourcing for core products
• Ensure transparency and compliance across our business

"Our business is all about the availability, accessibility and affordability of animal feed and food products in key global markets," said Khadim Al Darei, Vice Chairman and Co-Founder, Al Dahra. ■

KEY TAKEAWAYS

Strategy
• Procurement in the agriculture business can be complex as it requires compliance with regulations.

Execution
• By connecting to the Ariba Network for sourcing and procurement Al Dahra will transform procurement.

Saudi Arabian power utility Marafiq partners with SAP for digital transformation

(Left to right) Tariq Al-Suhayyan, Lead SAP Consultant, Marafiq; Andy Froemmel, Head of Cloud Solutions, SAP Saudi Arabia; Abdurrahman Atiqullah, Digital Transformation Leader, Energy Industry SAP Saudi Arabia; Ahmed Al-Khars, General Manager, Information Technology, Marafiq; Mosaab Al-Moaily, Manager and Project Leader, Information Technology Marafiq; Hans Juergen Schmitt, Account Executive, SAP Saudi Arabia; Fahd Nawwab: Director, Energy Industry, SAP Saudi Arabia.

The Saudi Arabian utility sector is undergoing digital transformation to optimise operations, modernise infrastructure, and reshape offerings, aligned with Saudi Vision 2030. The Saudi Arabian utilities provider, Marafiq, has embarked on enhancing its digital intelligence with SAP. Digital transformation presents a strong growth opportunity in leveraging innovative approaches and refreshed business directions.

Marafiq provides power and utility infrastructure to industrial cities within Saudi Arabia, which hosts some of the world's largest hydrocarbon conglomerates in Yanbu and Jubail. Marafiq plays a prominent role in powering the next-wave of growth for the Saudi Vision 2030 industrial ventures through the establishment of intelligent, digital power, and utility facilities.

Ahmed Al-Khars, Marafiq's

General Manager of Information Technology, highlighted that, "The Saudi Arabian utilities, including Marafiq, must focus heavily on digitalising power generation, water production, and waste-water recycling to enable the Kingdom's ambitious economic plans, especially for the energy-intensive industrial cities. Our digital transformation with SAP aims at preparing us for the changing future to be the provider-of-choice for the industrial sector in the Kingdom and lead spearing sustainable, reliable and cost-effective power and utility services for them."

Khaled Alsaleh, Managing Director SAP Saudi Arabia,

believes that, "Marafiq's growth strategy and its leverage of digital transformation would further solidify its leadership in the Kingdom's energy ecosystem."

Mosab Saleh Al-Moaily, Manager Information Technology and Project Leader, Marafiq, emphasised, "Information Technology is no longer a business enabler alone but also a driver for digital innovations in the digital world." He further said, "SAP's integrated, industrial digitalisation capabilities would accelerate our business performance, infuse intelligence into our operations, and advance our customer experiences."

Abdurrahman Atiqullah, Energy Industry Digital Transformation Leader, SAP Saudi Arabia, concluded: "By converting into an intelligent, digital-utility enterprise, Marafiq would achieve enhanced customer-centricity, greater productivity and excellence, better visibility across its industrial and corporate functions, and foster valuable business innovations, which will collectively support differentiating Marafiq's growth within the Kingdom's evolving energy ecosystem." ■

KEY TAKEAWAYS

Strategy
- Marafiq plays a role in next-wave of growth for industrial ventures through establishment of intelligent, digital power.

Execution
- Marafiq is part of the first power and utility businesses in Saudi Arabia to sign a digital transformation partnership with SAP.

Saudi Arabia's Umm Al Qura University revamps education using Oracle Autonomous DB

Saudi Arabia's Umm Al Qura University will implement Oracle Autonomous Database to create an integrated digital platform that will help the University deliver paperless educational services to more than 100,000 students across 36 colleges in 5 campuses. The implementation will enable the University to introduce programmes in digital skills across emerging technologies like Artificial Intelligence, for students from various disciplines to help prepare the country's next-gen workforce.

Based in the Holy City of Mecca, the Umm Al Qura University receives nearly 35,000 applications for its Bachelors' Degree programme and over 50,000 applications overall across all degree programmes. With the implementation of Oracle Autonomous Data Warehouse, the University will be able to enhance the user experience of the automated registration, admissions, administration and many other processes, especially for the university's top management.

"As part of the Vision 2030 initiative, the Government of Saudi Arabia is focused on developing at least five universities in the country to be featured amongst the world's top educational institutions; Umm Al Qura University being one of them", said Dr Atif Al Hijali, Vice Dean E-Services, Umm Al Qura University, Saudi Arabia.

"At Umm Al Qura University, we are fully aligned with the national aspirations and have thus been investing in creating a modern IT infrastructure that

Umm Al Qura University will implement Oracle Autonomous Database that will help deliver paperless educational services to more than 100,000 students across 36 colleges in 5 campuses.

will help us deliver a truly digital experience across all our colleges. The Oracle Autonomous Database is helping us create this platform, as the solution enables us to scale efficiently while also integrating vital data with other relevant Government ministries."

"In 2018, only 40 of our

services were online, our aim is for everyone including tutors, researchers and students to complete all tasks from their home or office and come to the University only for in-person classes or to write exams. With Oracle Autonomous Database, we will now offer 200 sub-sites with personalised editors and publishers with their own workflows, without any intervention from the IT department", added Dr Hijali.

"Umm Al Qura University is a pioneering educational institution that has always prioritised technological advancement to deliver high quality education to Saudi students. The adoption of Oracle's self-driving, self-securing and self-repairing Autonomous Database will help the University deliver future ready education to Saudi students, to equip them with the required skills for succeeding in the digital economy", said Fahad Al Turief, Country Manager Saudi Arabia, Oracle. ■

KEY TAKEAWAYS

Strategy
- Adoption of Oracle's Autonomous Database will help equip with the required skills for succeeding in the digital economy.

Execution
- With Oracle Autonomous Data Warehouse, the University will be able to enhance automated registration, admissions, administration.

Nokia releases off the shelf, vertical market IoT solutions for global operators

Nokia launched off-the-shelf Internet of Things packages to help operators win new business in vertical IoT markets. In addition to enabling operators to achieve a fast time to market, the packages simplify the set-up and operations of enterprise IoT services. Built on the Nokia Worldwide IoT Network Grid WING infrastructure that provides the necessary global IoT connectivity and services support, the applications include IoT sensors, user applications and business models suited to specific sectors. Nokia WING's managed service approach also offers a pay-as-you-grow business model, giving operators the flexibility to quickly scale up IoT services as required.

The new market-ready solutions for WING eliminate the challenges

ANKUR BHAN, *Global Head of WING Business at Nokia.*

facing operators developing their own IoT services. These include the need for specialised expertise, the complexities of combining fragmented IoT connectivity infrastructure and the risk and effort of setting up and working with multiple service providers globally. Nokia works with best-in-class partners on Nokia WING vertical applications portfolio and continues to develop the IoT ecosystem.

The four new solutions announced by Nokia include:

SMART AGRICULTURE AS-A-SERVICE
Sensors capture environmental, soil and crop data that is then analysed to provide insights that help farmers manage crops more effectively, potentially saving costs on irrigation, pesticides and fertilisers.

LIVESTOCK MANAGEMENT AS-A-SERVICE

Tracking devices and biosensors monitor animal health and welfare to provide ranchers with early alerts if abnormalities are detected, protecting valuable livestock and improving yields.

LOGISTICS AS-A-SERVICE
IoT sensors enable tracking of the global movement and condition of goods through the complete supply chain to help enterprises instantly identify incidents and even predict future events to optimise delivery and logistics process efficiency.

ASSET MANAGEMENT AS-A-SERVICE
Connecting products anywhere in the world enables their status

KEY TAKEAWAYS

Strategy
- WING eliminates the challenges facing operators developing their own IoT services.
- Need for specialised expertise, complexities of combining fragmented IoT connectivity infrastructure, risk and effort of working with multiple service providers globally.

Execution
- Nokia works with partners on WING vertical applications and continues to develop the IoT ecosystem.

Cash
- WING's managed service approach offers pay-as-you-grow business model, giving operators flexibility to scale up IoT services.

Nokia worldwide IoT network grid as a service

To accelerate the transition to a truly connected world for operators and enterprises

Nokia subscription management for e-SIM
Provides intelligent switching across cellular technologies and network providers

Nokia M2M Core aaS

Full service model
- Device Management
- Subscription Management
- Operations
- Customer care
- Billing
- Security

Nokia IMPACT
Intelligent management platform for all connected things

Markets

Benefits for CSPs
- Fast time-to-market with IoT connectivity
- New revenue streams

Benefits for XL enterprises
- Global connectivity for a wide range of applications
- One point of contact for fast service
- Partner for IoT product innovation

Worldwide IoT network grid (WING)

Market entry services to help operators accelerate revenue from IoT

Grow your revenue by accessing a near 2 trillion Euro market of IoT

75% Cars with build in IoT by 2020

200tn Connected sensors by 2020

$60tn Investment in industrial IoT in next 15 years

Define the right vertical market with related applications

- Healthcare
- Connected industry
- Connected retail
- Smart cities
- Smart Home & buildings
- Connected agriculture
- Utilities

The right go-to-market strategy

Which targets? > What product? > What price? > How to go?

Backed by a full managed service model for IoT

- Global & local connectivity enablement
- Service readiness
- Access to a global MNO alliance
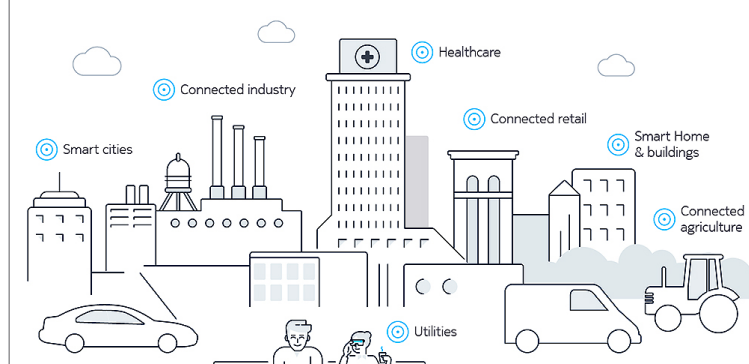- Connectivity monitoring
- Service desk
- Billing & revenue assurance
- Reporting

WING eliminates the challenges facing operators developing their own IoT services.

and performance to be monitored centrally, helping enterprises provide a better service to their business and consumer customers.

Nokia is trialing Agriculture as-a-Service with an African operator and working with a leading services and consulting firm on Asset Management as-a-Service to help them offer more advanced services.

Brian Partridge, Vice President, 451 Research, said: "Nokia addresses a wide spectrum of challenges through its WING IoT infrastructure-as-a-service so its early traction with customers is not a surprise. Most telecom operators desire a more prominent role in the IoT value chain that builds upon secure and reliable domestic or global connectivity. Nokia's announced plans to offer end-to-end vertical applications on top of the WING global infrastructure is a logical next step. We believe that this approach benefits Nokia's WING telecom customers and the enterprises they serve in addition to vertical application partners who can benefit from WING's market scale and go-to market channels."

Ankur Bhan, Global Head of WING Business at Nokia, said: "The IoT is a growing opportunity for operators to win new enterprise customers and significant additional revenue in a diverse range of vertical markets. With minimal upfront investment, an operator can now quickly get a service to market and generate IoT revenues. We expect these vertical solutions to encourage more operators to connect to Nokia WING, expanding its global footprint and broadening the range of capabilities and services that will become available. We already have several more vertically-focused as-a-Service packages in the development pipeline." ■

Abu Dhabi Smart Solutions partners with Cisco to build digital skills

Cisco and Abu Dhabi Smart Solutions and Services Authority, ADSSSA are collaborating on a variety of initiatives to fast-track digitisation across sectors including business innovation and smart cities in the Emirate of Abu Dhabi. The partnership aims to encourage diversification of technical skills and develop secure infrastructure to accelerate economic growth.

Abu Dhabi's Smart Solutions and Services Authority ADSSSA has a legal personality and possesses the necessary legal capacity as well as financial and administrative independence in all matters. The Smart Solutions and Services Authority is aimed at developing smart systems for government services by focusing on the combined experience of all categories of customers, to improve and assist the work of the government services sector.

The Authority works with all government bodies to redefine services and offer them in a seamless, proactive and integrated manner, to meet the individual needs of each customer, through a multi-channel unified platform which provides customers with access to services anywhere and at any time.

The Authority is also supervising the establishment of customer service centres, which will offer smart and integrated services as per global best practices. Their creation is an important initiative and a deliberated step which will help reinforce Abu Dhabi's position as a technological innovation hub.

The Authority's tasks also involve drafting general policies, strategic plans and initiatives, and providing operational support in order to achieve government integration in terms of information and communication technologies. It also helps to enable government entities to manage their institutional and developmental tasks through innovative systems and legislations, which will contribute to the improvement of government performance.

One such initiative geared towards achieving this is the talent development programme. Forming part of Cisco's Country Digital Acceleration programme for the UAE, it will focus on three main areas to stimulate job creation: cybersecurity, IT networking and digital skills.

The talent development programme will see a total of 600 people trained and upskilled in digital competency, including ADSSSA employees, Abu Dhabi government employees, UAE nationals and students. Developing talent locally is a key priority of the Country Digital Acceleration programme. Cisco's collaboration with ADSSSA on the Abu Dhabi National Training Programme is amongst the first Country Digital Acceleration initiatives in the UAE.

Commenting on the partnership, HE Dr Rauda Al Saadi, Director General of Smart Solutions and Services Authority said: "In line with the strategy focused on enhancing government services in Abu Dhabi, ADSSSA is committed to launching and implementing various innovative initiatives that position the Emirate at the forefront of digital transformation. Our partnership with Cisco reflects the Authority's strength and technological capabilities in transforming government services through world-class digital technologies, including Artificial Intelligence, Blockchain, Data Management, Internet of Things and Infrastructure among others." ∎

Siemon demonstrates rugged infrastructure at Jubail Industrial IoT Conference

Siemon, a global infrastructure specialist, is celebrating the success of the Jubail Industrial Internet of Things Conference where it showcased its comprehensive portfolio of cabling and connectivity solutions for harsher environments.

Jubail IIoT conference and exhibition took place in December at the King Abdullah Cultural Centre in Jubail Industrial City, the host of the world's largest petrochemical complex. Bringing together business executives and technical IT specialists from pioneering companies in the industrial sector, the event focused on increasing the understanding of how the Internet of Things is impacting industries such as Manufacturing, Energy and Utilities, Healthcare, Connected Transportation, Buildings, and Infrastructure.

In tutorials, presentation sessions, workshops and discussions, attendees learned about industry 4.0 strategy and adoption, impacting regulations and security risks and implications.

Siemon showcased its portfolio of infrastructure solutions for the harsh environment, including its line of Ruggedised copper and optical fibre cabling and connectivity. Siemon's Ruggedised outlets and modular patch cords provide an IP66, IP67-rated seal, protecting plug and outlet contacts from dust, moisture, industrial cleaning chemicals and vibration to safeguard valuable connections in harsh environments such as in laboratories, hospitals, food processing plants and other.

PREM RODRIGUES, Director of Sales and Marketing for the Middle East, India and SAARC at Siemon.

Also, on display was Siemon's Automated Infrastructure Management solution MapIT G2 which provides real-time tracking and reporting of activity at the physical layer of a network to improve asset management, reduce downtime and simplify regulatory compliance.

At the stand, Siemon experts were at hand to guide leading end users in the chemicals, petroleum and gas, electric utility and mining markets through the process of selecting the right types of ruggedised cabling and connectivity components for harsher industrial environments. This helps them to maintain long-term network reliability and prevents the need to replace components due to corrosion and damage from a variety of elements.

"Manufacturing environments have rapidly migrated to Industrial Ethernet to deliver information for industrial automation and control systems and to integrate factory environments with the corporate LAN," says Prem Rodrigues, Director of Sales and Marketing for the Middle East, India and SAARC at Siemon. "We are now seeing a growing demand for network cables, patch cords and connectors that are capable of withstanding more severe conditions. However, sufficient knowledge of the standards that apply and the different types of ruggedised solutions available is very important."

Siemon Interconnect Solutions is a Siemon business unit comprised of a team of dedicated technical sales professionals supported by Siemon Labs, mechanical, electrical and signal integrity engineers committed to solving industry and customer driven interconnect challenges. Siemon provides custom network infrastructure solutions to OEMs, leading manufacturers, value-added resellers and system integrators. ■

KEY TAKEAWAYS

- Siemon experts were at hand to guide end users in selecting ruggedised cabling and connectivity components for harsher environments.

- Siemon's Ruggedised outlets provide an IP66, IP67-rated seal, protecting plug and outlet contacts from dust, moisture, industrial cleaning chemicals and vibration.

INWIT scales inbuilding wireless across Italy's tourist spots to meet 5G checks

Millions of local and international visitors flock to Italy's historical landmarks and major venues every day, creating unique challenges for network operators in keeping people connected with high reliability. To address this, businesses across Italy are investing in digital infrastructures, giving customers, visitors, employees and tenants an in-building wireless experience. INWIT, Italy's largest provider of neutral host services, is collaborating with CommScope to deliver superior mobile voice and data services with readiness for 5G.

INWIT designs, installs and operates in-building wireless solutions for all types of enterprises and public venues. It will deploy CommScope Era, an all-digital C-RAN antenna system for multi-operator projects at venues throughout Italy, including the Fortezza da Basso Conference Centre and the Congress Palace, both in Florence.

INWIT will benefit from

SAMUEL BUTTARELLI, Vice President of DAS and small cells, CommScope.

CommScope Era's all-digital, software-centric architecture and its ability to flexibly allocate mobile capacity from a small footprint, centralised headend. This significantly improves the economics of delivering in-building wireless services when compared with traditional distributed antenna systems DAS.

CommScope Era now features a direct CPRI interface to Nokia baseband units and a family of

remotes ranging in power from 60 milliwatts to 20 watts, to support virtually any building structure and its adjacent outdoor spaces. As a single in-building wireless platform that can scale from office buildings to the largest stadiums, CommScope Era meets INWIT's needs for flexibility and operational efficiency. INWIT's success in deploying solutions throughout Italy illustrates the flexibility and attractive economics of the C-RAN antenna system.

The country's service providers are seeking 5G-ready technologies to keep up with the subscriber demand for more wireless bandwidth by adding capacity to their networks. Inherent in its digital architecture, CommScope Era establishes a highly-efficient multiplexed fiber fronthaul architecture that supports today's LTE and 3G services and can be used for 5G in the future.

"INWIT is committed to providing reliable, multi-operator, in-building wireless connectivity for all types of public and private organisations. Our neutral host business model allows mobile operators to optimise their investments by sharing network infrastructure," said Giovanni Ferigo, Chief Executive Officer, INWIT.

"Reliable, ultra-fast mobile coverage in what we consider the birthplace of Western civilization will enhance the experience of locals and the thousands of visitors who explore museums, stadiums, conference centres, train stations and other historical landmarks," said Samuel Buttarelli, Vice President of DAS and small cells, CommScope. ▪
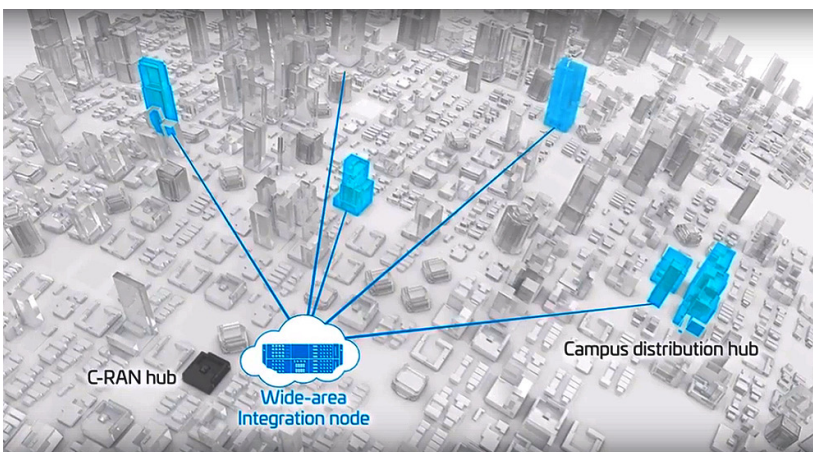
MILLIONS OF VISITORS, FLOCK TO ITALY'S HISTORICAL LANDMARKS CREATING UNIQUE CHALLENGES FOR NETWORK OPERATORS IN KEEPING PEOPLE CONNECTED.

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Region's first utility wind farm in Oman inspected by high profile stakeholders

Visiting the project site in the southern Dhofar Governorate of Oman were Hamdan Ali Al Hinai, Chairman of the Oman Power and Water Procurement Company OPWP; Eng Yaqoob Alkyumi, Chief Executive Officer of OPWP; Eng Saleh Al Rumhi, CEO of Tanweer; Mohamed Jameel Al Ramahi, CEO of Abu Dhabi Future Energy Company Masdar; Omar Al Wahaibi, CEO of MANA Holding; Dr Manar Al-Moneef, General Manager, MENA and Turkey of GE Renewable Energy, and high-ranking representatives from Gopa-intec PMC, TSK, and Welayat Shaleem.

A senior delegation of government and business dignitaries has witnessed first-hand the steady progress being made in the development of the 50-megawatt Dhofar Wind Farm, the GCC's first utility-scale wind farm.

The landmark wind farm, which is fully funded by the Abu Dhabi Fund for Development ADFD, the leading national entity for development aid, reflects Oman's commitment to diversify its energy sources. The project is being implemented by Masdar on behalf of ADFD, through an EPC consortium of GE Renewable Energy and TSK. On completion in the third quarter of this year, the wind farm is expected to generate enough electricity to supply 16,000 homes, equivalent to 7% of the Dhofar Governorate's total power demand.

Construction began in the first quarter of 2018. Four of the project's 13 wind turbines have now been installed, and virtually all of the project's infrastructure has been completed. The remaining wind turbines will be in place by the end of March, before being connected to the grid. Project handover is scheduled for Q3 2019.

Oman Power and Water Procurement Company OPWP will be the off-taker, or purchaser of the generated power, from the Rural Areas Electricity Company of Oman Tanweer, which is responsible for operating the wind power plant upon completion.
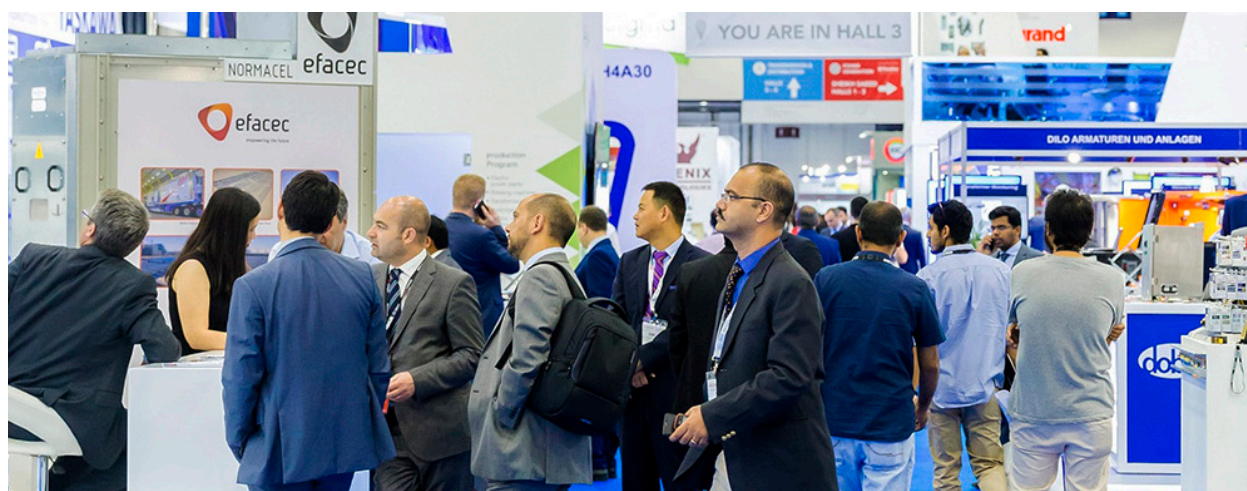
GE Renewable Energy is providing the project's 3.8MW wind turbines that are tailor-made for hot and arid desert conditions, while TSK is responsible for the remainder of the wind farm's infrastructure and electrical transmission facilities connecting the plant to the grid.

Power demand in the Dhofar Governorate, the largest of Oman's 11 Governorates, is growing at around 10% annually. Besides helping to meet this demand, the Dhofar Wind farm will offset an estimated 110,000 tonnes of carbon dioxide emissions annually, while reducing reliance on natural gas for domestic power generation.

Further illustrating the positive community impact of renewable energy development, Masdar is building a solar-powered water treatment plant in the nearby city of Fatkhi, as well as a children's playground. The projects are also expected to be ready by September.

Yesterday's site visit comes less than a month after Saudi Arabia announced that it had selected EDF Renewables and Masdar to develop the Kingdom's first wind farm, the 400MW Dumat Al Jandal wind project. The total generating capacity of wind energy projects either delivered or under development, in which Masdar is a partner, is around 2 gigawatts. ■

GE Renewable Energy is providing wind turbines tailor-made for hot and arid desert conditions.

Usage of smart grids can save GCC $10B according to MENA Power Industry Outlook

Energy storage and management is one of five focused sectors of Middle East Electricity with the remaining four covering power generation; lighting, transmission and distribution and solar.

The GCC could save up to $10 billion in infrastructural investment in the coming year through the use of smart grids, according to the MENA Power Industry Outlook. The report, prepared by Ventures Onsite for Middle East Electricity, the world's largest annual power industry trade platform, says the development of smart grids is one of the most important steps towards improving electricity diversification and conservation in the GCC.

The report also forecasts the value of the GCC smart grid market will grow to $1.68 billion by 2026 as regional governments step up their deployment of smart grid infrastructure amid heightening demand for energy storage systems. The major shift towards smart grids and their reliance on energy storage systems will come under sharp focus at Middle East Electricity 2019, which runs at Dubai World Trade Centre DWTC from March 5-7.

This critical dynamic is why energy storage and management are a dedicated pillar at Middle East Electricity 2019. With growth in the GCC renewable energy market expected to also drive smart grid technology adoption, the energy storage and management segment will run in close collaboration with the dedicated solar segment.

Such is the overwhelming global interest in energy storage and management, Middle East Electricity 2019 will launch a dedicated technical seminar addressing solar and energy storage and management solutions – the latest addition to the show's powerful Knowledge Programme. Organised by Intersolar, the free-to-attend seminar, included for the first time in the event's programme, will focus heavily on grid-tied PV system design, battery maintenance and regeneration and PV systems operations and management.

Intersolar is also organising a dedicated electrical energy storage conference, examining renewable energy storage solutions, from residential and commercial applications, to large-scale storage systems for stabilising grids. Pressing industry issues to be addressed include: how energy storage can help ensure high-quality power supply for unstable networks and remote areas; the impact of PV and storage on integrated energy solutions, while Germany's NGK Europe will present a case study on the 650MWh of NAS batteries already installed in the Emirates.

Energy storage and management is one of five focused sectors of Middle East Electricity with the remaining four covering power generation; lighting, transmission and distribution and solar.

More than 60,000 industry professionals are expected to visit the 2019 edition of Middle East Electricity, which is now in its 44th year. Some 1,600 leading manufacturers and suppliers will pack the event, which is held under the patronage of HH Sheikh Maktoum Bin Mohammed bin Rashid Al Maktoum, Deputy Ruler of Dubai, and is hosted by the UAE Ministry of Energy. ■

Oracle's ready to use blockchain application helps jump start roll out obstacles
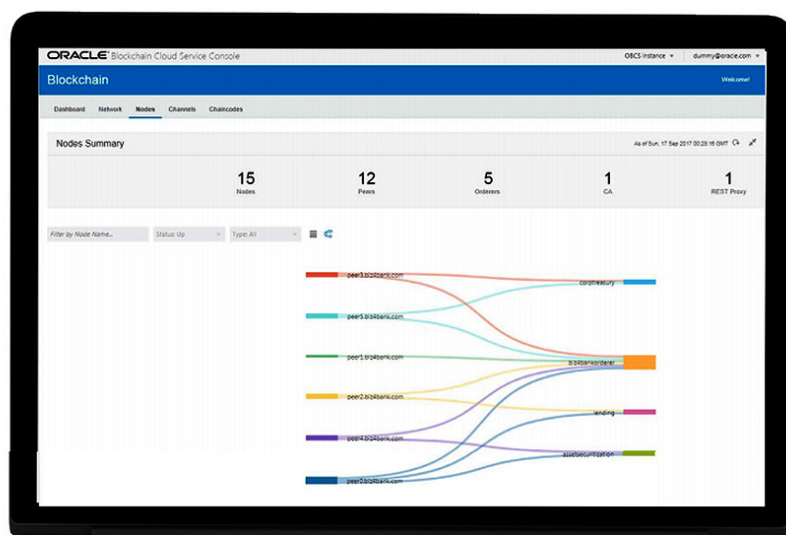
Oracle provides a blockchain offering, including business-ready Oracle Blockchain Applications Cloud and Oracle Blockchain Platform for developers who need to build or integrate their applications.

Businesses around the world have already reaped the benefits of blockchain applications built on Oracle Blockchain Platform. Companies using Oracle's business-ready blockchain have been able to move from experimentation to production by creating new blockchain applications from scratch or adding blockchain functionality to an existing solution. To support its customers, Oracle has added new features to the platform that help users speed up the development, integration, and deployment of new blockchain applications.

While blockchain can greatly streamline many existing processes surrounding supply chain, identity, cross-border payments, and fraud detection, businesses have struggled to implement blockchain networks within their existing ecosystems. Oracle Blockchain Platform addresses this challenge by streamlining the process of building and integrating blockchain applications across diverse business networks and connecting them into the relevant business processes within these ecosystems.

Using blockchain applications, Oracle customers are establishing new ways to increase trust in diverse ecosystems and increasing the speed, security and efficiency of a wide range of business processes. Oracle's rapidly growing list of global customers with production deployments on its enterprise-grade blockchain platform include:
• China Distance Education Holdings uses blockchain to share educational records and professional certifications across many educational institutions to help employers and recruiters verify the educational credentials claimed by individuals.
• Circulor uses blockchain to track conflict minerals from their origin at the mines to processing and use in electronic components to ensure ethical sourcing of raw materials.
• SERES uses blockchain to bring greater trust and efficiency to electronic invoicing in franchise networks, which share ordering and fulfillment data between franchisors and franchisees.
• Arab Jordan Investment Bank, CargoSmart, Certified Origins, HealthSync, ICS Financial Systems, NeuroSoft, Nigeria Customs, OriginTrail, SDK.Finance, and TradeFin have built or integrated

KEY TAKEAWAYS

Strategy
• Oracle Blockchain streamlines integrating blockchain applications by connecting them into business processes.

Execution
• While blockchain can streamline processes, businesses have struggled to implement blockchain networks within existing ecosystems.
• The platform enables Oracle Autonomous Data Warehouse to capture blockchain transaction history and current state data for analytics.

Cash
• New DevOps capabilities make the platform easier to integrate with existing business and IT systems.

Oracle's blockchain applications are built with Oracle Blockchain Platform and connect with Oracle Supply Chain Management Cloud, Oracle Enterprise Resource Planning Cloud and other Oracle Cloud Applications.

production-ready blockchain applications on Oracle Blockchain Platform.

With this latest release, Oracle has added unique developer-oriented productivity enhancements and consortium-oriented identity management features, which are critical to diverse organisations conducting business transactions via a blockchain network.

New DevOps capabilities make the platform easier to integrate with existing business and IT systems. Additionally, as blockchain becomes an important data store in the enterprise, the platform enables Oracle Autonomous Data Warehouse customers to transparently capture blockchain transaction history and current state data for analytics and to integrate it with other data sources.

NEW FEATURES

• Enhanced world state database to support standard SQL-based ledger queries reducing the complexity of developing chaincode using readily available programming skills, ensure smart contracts can safely rely on the query results, which are verified at transaction commit, and significantly boost performance of rich data queries.

• Rich history database shadows transaction history into a relational database schema in the Autonomous Data Warehouse or other Oracle databases, which transparently enables analytics integration for interactive dashboards and reports.

• Enhanced REST APIs for event subscription, blockchain administration/configuration, and monitoring of network health, transaction rates, and other statistics, which simplify integration with existing enterprise IT tools.

• Identity federation further extends authentication capabilities to work with external identity providers to facilitate consortium blockchains with many diverse participants using their existing identity management systems.

• Third-party certificate support for registering client organisations on the blockchain network to enable them to use existing certificates issued by trusted third parties.

• Hyperledger Fabric 1.3 support, which adds many new features based on the evolving open source version, including chaincode development in Java, further leveraging existing enterprise skills, and support for private transactions among a subset of members, preserving privacy and business confidentiality.

Oracle provides a blockchain offering, including business-ready

Oracle Blockchain Applications Cloud and Oracle Blockchain Platform for developers who need to build or integrate their applications. Oracle's blockchain applications are built with Oracle Blockchain Platform and connect with Oracle Supply Chain Management Cloud, Oracle Enterprise Resource Planning Cloud and other Oracle Cloud Applications. Oracle Blockchain Platform is production ready with enterprise-grade capabilities, accelerating customer's blockchain journeys and saving their costs.

Oracle Cloud offers a suite of integrated applications for Sales, Service, Marketing, Human Resources, Finance, Supply Chain and Manufacturing, plus Oracle Autonomous Database.

"Oracle's blockchain solution delivers enterprise performance, security and scalability right out-of-the-box," said Doug Johnson-Poensgen, CEO and founder of Circulor. "We started with the Oracle Blockchain Platform four months ago and were able to go from zero to a production system spanning multiple organisations involved in ethical sourcing of minerals within a matter of months. Another key advantage is that we were able to integrate Oracle's blockchain platform into a hybrid blockchain network spanning multiple clouds and easily integrate with our existing systems and applications."

"Blockchain improves the trust relationship between franchisor and the franchises by including best practices and decentralised access to the transactions. Normally, merchandise acceptance processes are manual and require an operator entering the data into the system. But, for example when a franchise has economic problems, it can repudiate that delivery, saying that it never received the merchandise. They can manipulate the database and, on the other hand, also the franchisor can manipulate it," said José María Mínguez Gutiérrez, Transactional Services Manager of SERES. ■

Oracle cloud datacentre in UAE to accelerate in-country digital transformation

ARUN KHEHAR, Senior Vice President Business Applications, Middle East and Africa, Oracle.

Oracle announced availability of its new datacentre in Abu Dhabi, which will offer public cloud applications services to customers in the UAE and wider Middle East. The Abu Dhabi datacentre will support rapid adoption of Oracle Cloud in UAE and act as a key catalyst for implementation of UAE's strategy for the Fourth Industrial Revolution aimed at building the country's leadership in education and advanced technology, including artificial intelligence, robotics and genomic medicine.

Top organisations in the UAE continue to drive major digital transformation projects with Oracle Cloud. Etisalat, one of the world's leading telecommunication groups, is the telecom partner for Oracle's applications datacentre in Abu Dhabi.

"By locating a datacentre in the UAE, we will be able to better manage service levels and respond to local customers, who,

for data governance requirements and other reasons, need to keep their data local," said Arun Khehar, Senior Vice President Business Applications, Middle East and Africa, Oracle.

"Our customers in the region are excited about this new development. Coupled with Oracle's unique ability to deliver solutions at every layer of the cloud stack, they firmly believe they can tackle digital disruption head on."

"In the past year, we have seen dramatic changes in the industry with digital technologies taking centre stage. Businesses are making investments in futuristic technologies and adapting to these technological changes in their ecosystems", said Miguel Villalonga, Vice President of Cloud and Datacentre, Etisalat Digital.

"With digital transformation driving the future, more companies are enabling digital innovation in their business and

services. Our collaboration with Oracle complements very well the existing capabilities of Etisalat Digital and will help accelerate this transformation and cloud adoption to further empower government and commercial entities in the region."

Her Excellency HE Dr Rauda Al Saadi, Director General of Abu Dhabi Smart Solutions and Services Authority, said, "The Authority is sparing no effort in contributing to positioning Abu Dhabi as a global hub for technology and innovation. In line with this, the launch of the new Oracle datacentre in Abu Dhabi represents a strong boost towards achieving a digital transformation path, complementing the Abu Dhabi Government Accelerators Programme Ghadan 21."

Data management represents a cornerstone of the authority's strategy to develop and manage the data exchange platform, build analysis capabilities, and reinforce private sector participation in the development of this field, she noted. That effort supports the Abu Dhabi Government's efforts to achieve economic growth and enrich the quality of people's lives. ■

KEY TAKEAWAYS

- Etisalat is the telecom partner for Oracle's applications datacentre in Abu Dhabi.

- The Abu Dhabi datacentre will support adoption of Oracle Cloud in UAE and catalyst for UAE's strategy for the Fourth Industrial Revolution.

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TRANSFORMING THE RETAIL SUPPLY CHAIN USING CLOUD

Value added distributor Denaster has been able to scale its business for prestigious, regional Duty-Free outlets using NetSuite Cloud.

The consumer lifestyle technology market is governed by a rapid obsolescence of products, with retail purchases being driven by the latest product releases at economical prices. Denaster General Trading is a key distributor of consumer lifestyle technology products, health care products, and personal care products. Its target retail market in the region includes the top Duty-Free outlets, leading online purchase outlets, and other leading retail stores. Says Deep Bhogal, Managing Director of Denaster General Trading, "Dubai Duty Free has been our biggest customer in the region now."

Unlike other vanilla box distributors, Bhogal points out that Denaster actually plays the role of a value-added distributor. "We do not only just supply the retail market. We actually put our own staffing – so we have about a hundred and twenty staff outside actually selling the products."

As a value-added distributor for prestigious super retail outlets, other than just delivering products to the retail shelves, Denaster also ensures the products get sold from the shelves. "We actually encourage customers and passengers to buy the products and tell them the advantages of buying our products." Bhogal also leverages a group of merchandisers to make things look great along with the sales promoters.

For Denaster, the biggest challenge of its current business, is ensuring it has the right amount of stock to meet the demands of launching the latest consumer lifestyle

DEEP BHOGAL, Managing Director of Denaster General Trading.

technology products. If the stock that it supplies, is more than the demand at its retail outlets, then Denaster will be left with unsold stocks and inventory, at the end of the launch campaign. If the stock is less than the demand generated from the campaign, Denaster will be faced with lost sales opportunities, disappointed consumers and retailers.

"We need to stay ahead of the game – keeping up with technology, as technology keeps changing. That is probably one of our biggest challenges. You have got to manage the inventory to make sure that you do not get stuck with stock, because you know everybody wants the latest and nobody wants what is already gone in the past. So, it is a fine balancing act of trying to keep the right
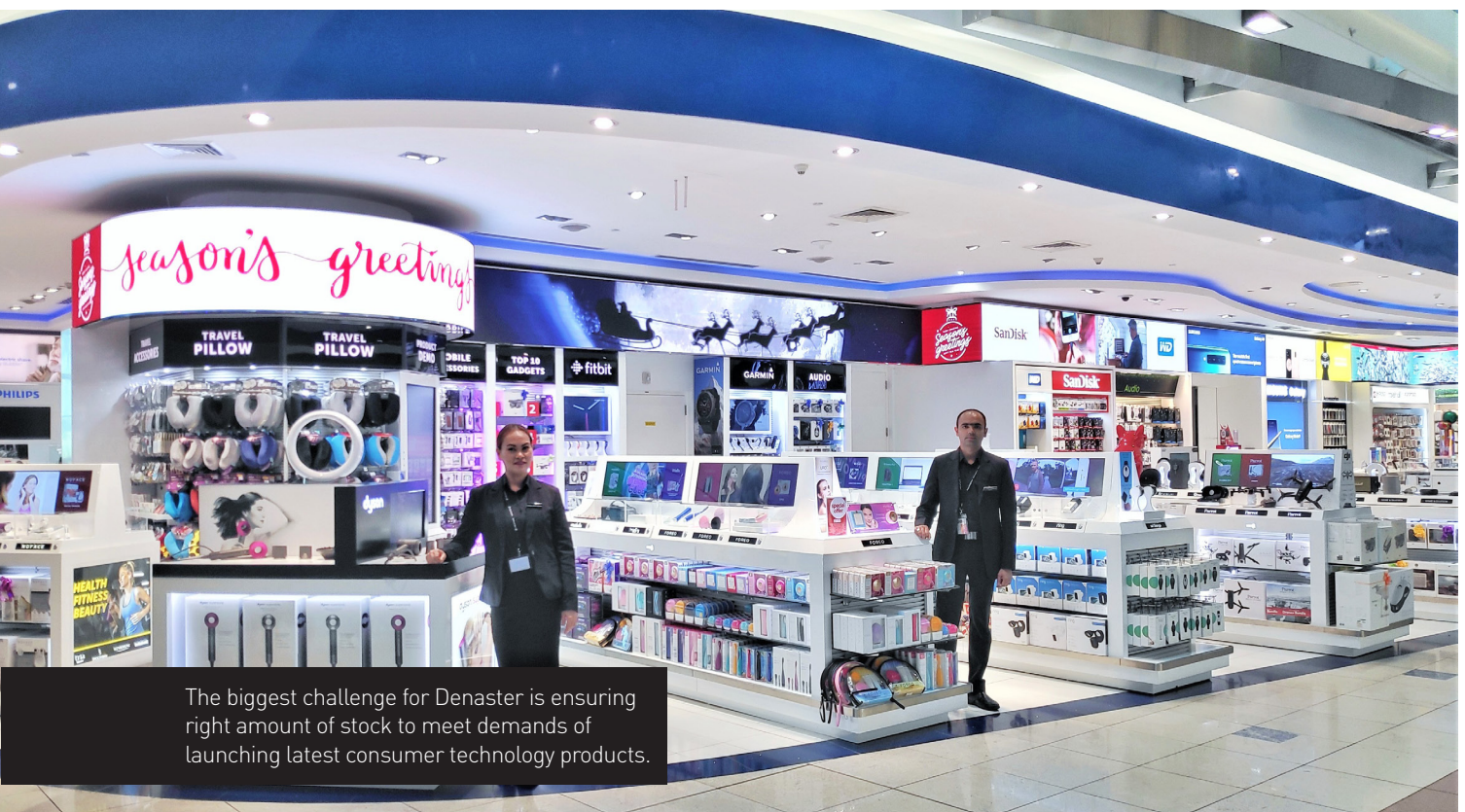
The biggest challenge for Denaster is ensuring right amount of stock to meet demands of launching latest consumer technology products.

KEY TAKEAWAYS

Strategy
- The biggest challenge for Denaster is ensuring right amount of stock to meet demands of launching latest consumer technology products.
- Another pain point for Denaster has been generating reports for business from multiple IT systems.

Execution
- NetSuite works in an integrated manner and end-customers keep adding on modules based on their requirements.
- Inside NetSuite various modules talk to each other and it is not necessary to export data.

amount of stock and selling the right demand," elaborates Bhogal.

Another pain point for Denaster has been generating reports for business from multiple IT systems. In the past Denaster was using multiple systems that did not talk to each other and was consolidating the data in MS Excel. "It has always been our challenge to get reports from the current systems. It takes time for our guys to work out the XLS, pulling from different platforms," reflects Bhogal.

Denaster has begun its business and digital transformation journey by selecting Oracle NetSuite Cloud ERP. Specifically, for Denaster, NetSuite's inventory and advanced inventory modules help to keep track of the total cost of the products, including import duties, cost valuations, stock positions, and stock reorder requirements.

Post the implementation of NetSuite, Denaster is looking at customising and building its report formats in a more integrated manner. Inside NetSuite, all the

various modules talk to each other and hence it is not necessary to export the data to XLS. "This is where NetSuite actually comes in and we can now integrate all our different platforms into one," says Bhogal.

By transforming its operations to NetSuite's cloud-based ERP platform, Denaster has also been able to scale its operations into multiple countries from UK. Using a client server-based application would have been more cumbersome and time consuming. "It is very difficult to do this on a server base, so we need to move over to the cloud. We are just entering transformation."

Another benefit has been the integration of physical and online processes, when Denaster launched its e-commerce platform based on the Magento platform. NetSuite provides integration with the Magento platform and the online ordering process is now seamlessly integrated with the rest of the organisation's business processes.

NETSUITE HAS 16,000 END USER BUSINESSES USING ITS PORTFOLIO, AN INDICATION OF ITS ABILITY TO MEET PROCESS, DELIVERY, PERFORMANCE EXPECTATIONS.

KEY TAKEAWAYS

Cash
- By transforming operations to NetSuite's cloud platform, Denaster has been able to scale operations into multiple countries.
- Another benefit has been integration of physical and online processes when Denaster launched its e-commerce platform based on Magento.
- Post implementation of NetSuite, Denaster is looking at building report formats in a more integrated manner.

Reflects Bhogal, "I think now I can just press a button and I will get that information in real time."

INSIDE NETSUITE

Oracle NetSuite ERP, was born in the cloud, and in that sense is differently positioned from its legacy competitors. NetSuite has been built to address the business requirements of small and medium enterprises. There has been significant regional demand for the solution with the recent announcement of VAT across various GCC countries.

The positioning of NetSuite as an application is further explained by Ahmed Sami, Regional Director of Oracle NetSuite. "NetSuite is an end to end enterprise solution, which includes financials as a back-office function. We see a great demand and pressing need for customers to acquire enterprise solutions that are affordable and yet can serve their requirements." The VAT module is embedded within the financial application of NetSuite.

Other than horizontal business and office productivity solutions, NetSuite also has vertical and micro-vertical segment applications include in its suite. "This allows us to serve a bigger client base with their specific needs and then it grows with their business," explains Sami.

The NetSuite cloud solution works in an integrated manner and end-customers keep adding on modules based on their requirements. As the business grows in terms of business and process requirements, end customers can activate and add-on additional functionality.

"Once a customer acquires our solution, they start with the implementation services, and then they continue through this journey until they stabilise their operations. Some of our clients would need only a simple inventory and some of our customers would need advanced inventory with material planning capabilities and so on," says Sami.

The NetSuite portfolio also includes various tools for end users to customise their reporting formats as well as application programming interfaces to boost inter-connectivity with legacy or other applications.

NetSuite is effective in stabilising the core operations of any business and scales in-phase with rest of the business. Sami gives an example of UK based Deliveroo, which is an end customer. It started as a small operation in one country and has now scaled to multiple operations in over 16 countries. "It really depends on the core operation of our customers and how they are expanding. We have so many examples that started as very small companies and then started to expand their operations."

Since NetSuite is a cloud-based subscription model, it is very important that the ERP application suite meet the expectations of its end users. Since the cloud application now has over 16,000 end user businesses using its portfolio, that is an indication of its ability to meet the process, delivery, performance expectations of its global and regional customers. ■

Gartner's Top 10 Strategic Technology Trends for 2019

Gartner SYMPOSIUM | ITXPO

Intelligent

#1 Autonomous Things

#4 Augmented Analytics

#7 AI-Driven Development

Digital

#2 Digital Twins

#5 Empowered Edge

#8 Immersive Technologies

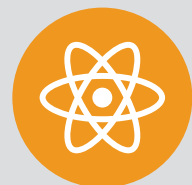## Mesh

#3 Blockchain

#6 Smart Spaces

#9 Ethics & Privacy

#10 Quantum Computing

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TRANSFORMING THE REGIONAL SHIPPING SUPPLY CHAIN

Qafila's platform is adding digital technology and platforms into legacy shipping processes improving transparency and speed, according to Atif Rafiq.

ATIF RAFIQ, CEO and Co-Founder, Qafila.

As the CEO and Co-Founder of Qafila, Atif Rafiq wears multiple hats from working with his team to identify tasks and goals and bottlenecks for the new business. He also monitors all aspects of the business including customer feedback, performance and updating investors.

Qafila is re-engineering the shipping process. It is digitising the shipping process by simplifying it and providing structure to the shipping data across supply chains. The platform simplifies shipping into three broad digital offerings: book, manage and track.

This allows shipping managers to receive online quotes for shipments, manage the document handling process and track them real-time through online dashboards. In the process, a customer's shipping data is digitized and given structure in the supply chain.

Looking at digital ransformation, it is not a process with a start or an end. Neither is it just about the implementation and the use of technology. Digital business transformation, at the fundamental level, is the ability of an organisation, its leaders and employees, to adapt to rapid changes brought forth by evolving digital technologies.

It is how technology changes the conditions under which business is done, in ways that changes the expectation of customers, partners, and employees. "We strongly believe change is the new constant and speed of adapting to change is the currency of future," explains Rafiq.

The idea of continual adaptation to a constantly changing environment with a key focus towards the customer's problem and their experience is Qafila's key objective.

Qafila's platform allows users to manage their supply chain through a cloud platform by giving them 24x7 accessibility, ability to schedule transport plans at the time of booking, and bring communications related to this, in one place. It also helps shipping managers manage shipment related information in a shared workspace with complete transparency and visibility into the shipping process.

Qafila's technology not only provides data but also works with the user to use that data for streamlining the logistics process and identifying potential bottlenecks. This unlocks new

> **MANAGEMENT SHOULD BE THE DRIVER OF CHANGE AND DIGITALISATION IS A TOP DOWN APPROACH.**

DATA HOLDS A LOT OF INSIGHTS AND THAT INSIGHT SHOULD BE USED AS A CATALYST FOR DIGITALISATION AND CHANGE.

KEY TAKEAWAYS

- Digital is quantitative.
- Build a specialised digital team.
- Keep an eye on customer needs not their wish-list.
- Becoming a digital company is also becoming a data-driven company
- Digitalisation should be part of organisation culture.
- Business goals and objectives will change with a focus on digital.
- You need people who are comfortable with being uncomfortable.
- Create an atmosphere of collaboration throughout the organisation.
- Be transparent and open new ways of collaborations for teams across function and departments.
- When people work side by side on cross functional teams, they better understand each other's challenges.

opportunity within the supply chain with data-driven insights and customised reporting because data quality provides the basis for all optimisation efforts in any organisation.

From Qafila's perspective, it is always better to start with the pain points of the target audience and show how the solution solves the problem with speed, flexibility and cost effectiveness for them. If the user can double his productivity with the same infrastructure, or if they can reduce cost and have the same productivity, they would be interested.

"Being the very first one is both exciting and terrifying because we need to educate our customers, build the awareness before we make a sale. The industry is fragmented and highly competitive where supply chain is viewed not as a competitive advantage, but as functional business unit which is why business leaders do not put supply chain digitisation as their priority," says Rafiq.

During a digital transformation project, "I think the biggest takeaway is keeping an eye out on the horizon," adds Rafiq. Companies should review the digital landscape, periodically, for potential changes that can threaten a business. Leaders and employees should develop a fundamental digital literacy and keep that knowledge up to date. Claiming, we are not a digital company, is no longer an option.

The rate of change is at the point where failing to pay attention and developing a working knowledge of the present state of digital technologies all but guarantees obsolescence and disruption.

Transforming the company is not enough, begin rebuilding the organisation in a way that it can adapt to constant change. Adaptable processes involve modular organisational structures that can be readily reconfigured and systematic processes that provide employee opportunities to continue developing and updating their skill sets.

They also include strong communication practices such that all members of the organisation can know its strategic direction and be informed when changes to this direction occurs

Companies that were most successful with respect to digital transformation were those that invest time, energy, and money into making it happen. The challenge is that the gap between what is possible technologically and what companies are actually doing is growing wider. Waiting too long may allow new or established competitors to captilalise on these changes, or result in a gap between where your company is and where it needs to be that becomes too wide to overcome.

Reflects Rafiq, "Digitalisation and transformation for us is not a process with start or an end, neither is it the adoption of the latest technology, nor the use of it. Digitalisation is the constant strive for improvement and change. We have to keep pushing the envelope forward with new initiatives, improve on the old ones, and focus on the customer experience, improving process efficiency and keeping up with the changing technology landscape." ◼

HELPING C-SUITE TAKE CHARGE OF TRANSFORMATION

For last 40+ years, SAS built its competence around operational analytics and is now delivering analytics for top executives, says Amir Sohrabi.

AMIR SOHRABI, COO and Head of Digital Transformation, Middle East and Eastern Europe, SAS.

While artificial intelligence has resurfaced as a recent buzzword, for global vendor SAS it is a 40+ year old core competence. SAS continues to focus on singular and advanced analytics and attracts global enterprises from this competence. As business industries have progressed into adopting digital transformation technologies, SAS has also developed its global partner alliances.

"We are always going to be working closely with different types of partners that have domain expertise. So, we are always looking to engage with partners with different areas of expertise in the area of banking, telecommunications, energy, and the public sector," says Amir Sohrabi, COO and Head of Digital Transformation at SAS. He points out that SAS has never been more engaged with partners. "They are bringing a lot of value to our ecosystem, so that has just accelerated in the last few years."

SAS' strengths lies in its analytical and data ingestion capabilities and it is this strength that has attracted global industrial technology vendors like Honeywell to partner with SAS. Leveraging this strength, SAS has now created a global IoT division that did not exist even three years ago. SAS harvests the data coming from these industrial technology solutions and applies analytics on top of the data leading to better decision making.

A key strength of SAS's IoT division is its fundamental ability in generating analytics from the edge to the core. While SAS' legacy was analytics at the core, the recent developments of IoT sensors at the edge have meant that analytics have to be built into the edge as well. "We are the experts in the area of analytics and by embedding our analytics into their IoT devices, we will have this from edge to the core. This is how we are bridging the gap and helping our clients innovate their business," elaborates Sohrabi.

Across the region, Sohrabi sees select industries, including utilities and energy, adopting faster than others in the region and in comparison, to their global counterparts as well. SAS is actively engaged in boosting the adoption rate of analytics across various industries in the region. "We look at those organisations as our IoT partners and we have a very strong IoT strategy in which we are engaged with

SAS IS ENGAGED WITH CUSTOMERS AT EXECUTIVE LEVEL TO BE ABLE TO DEFINE STRATEGY AND USAGE OF ANALYTICS.

> A KEY STRENGTH OF SAS'S IOT DIVISION IS ITS ABILITY IN GENERATING ANALYTICS FROM THE EDGE TO THE CORE.

KEY TAKEAWAYS

Cash
- Select industries, including utilities and energy, are adopting analytics faster than others in the region.
- Business data is like the fuel driving digital transformation of an organisation.
- Analytics is the heart and engine of an organisation's digital transformation.
- SAS uses advanced analytics as part of driving value for customers in their digital transformation journey.

Execution
- The exponential growth of data is helping to build more predictive models of analytics and algorithms.

them. We work very closely with strategic industries and strategic partnerships," says Sohrabi.

Typically, there are three levels of analytics meant for operational analysts, managers, and top-level executives. Traditionally SAS has operated at the analyst level but is now delivering analytics for top level executives as well. In essence SAS has now developed into an end to end lifecycle, data analytics platform. Analysts work at the operational level of data and then push their results up the pyramid to the management level. The management level pushes their results to top level executives, who further utilise these analytics based on their required key performance indicators.

"The decision-making and the type of data they look at is going to be completely different from the managerial down to the analyst level and it is going to be the triangle feed that goes up there. That is where we can really hone in and be able to allow the executive to formulate the right type of analytics culture," explains Sohrabi. "Our approach is really defining the business requirement of the executive layer."

The way analytics is deployed and used at each of the three levels are vastly different from each other. By working at the

executive level, SAS helps to identify what are the key drivers for business and what are the milestones they are trying to reach. SAS is engaged with its customers at the executive level to be able to define their strategy and usage of analytics for their business requirements.

From the beginning, the value proposition offered by SAS analytics has been tied to business. "All of our value propositions have solid business cases behind them and this is where always our focus has been. Our core strength has always been to be with business and to make sure that we are driving value for business," points out Sohrabi.

But now with the adoption of digital technologies, Sohrabi describes the SAS go to market and positioning using a different analogy. He points out that, business data is like the fuel driving digital transformation of an organisation. And analytics is the heart and engine of an organisation's digital transformation. "If we look at digital transformation, what is making it go – the fuel – is data. The engine is a strong analytical platform and for us that engine is the SAS platform. That is how we drive value for customers to be competitive, to innovate and to optimise." ◾

TRANSFORMING THE FOOD AND BEVERAGE INDUSTRY

Digital technologies including IoT, analytics, cloud, mobility, are driving large scale changes across the entire production and distribution supply chain of the regional food and beverage industry.

Fast–flying social media. Rising material and labor costs. Agricultural inputs insecurity. Shrinking margins. Constantly changing consumer preferences. Fresher. More convenient. Local. Organic.

There is no question this is one of the most challenging times for the food manufacturing sector, but it is also one of the most exciting and hopeful. In the Middle East and North Africa, and globally, these challenges are arising at the same time as digital industrial solutions are increasingly available.

From the Industrial Internet of Things to connected factories to predictive maintenance and intelligent asset strategies, the dramatically lower costs of smart sensors, the cloud, big data, and analytics is providing the tools food and beverage companies of all sizes need to overcome today's challenges and prepare for tomorrow's opportunities. This digital tornado represents a once-in-a-lifetime opportunity to make not just incremental improvements, but a transformative step-change across a company's manufacturing operations.

The food and beverage industry are experiencing a period of transition and challenge. Large global consumer packaged goods companies are facing shrinking margins and lower growth, with the security of agricultural inputs an emerging challenge. Gulf countries, for example, have joined Asian countries such as China in looking to secure agricultural supply through the purchase of farmland in Africa and beyond.

Consumer packaged goods companies, which have been consolidating over the past decade, are looking for ways to spur growth at a time when smaller, more agile brands

are expanding quickly, spurred on by consumer preference for local, authentic, healthy, organic products that speak to their values. As well, consumer packaged goods companies face a world with fewer untapped markets, so growth cannot rely only upon emerging markets.

CHANGE MANAGEMENT

There is no doubt that the impact of digital industrial solutions can be dramatic. However, the process of moving a company into the digital world is as important as the technology itself. It is a journey that is very different from any type of IT implementation. For starters, it is a process that can only succeed if the leadership is fully committed and driving the change. It is a precondition. If the CEO and top leadership do not believe, then do not start. The driving force for this change must come from the top, with the leadership saying, this is what we want to do.

Because so much collaboration is required within a company undergoing a digital transformation, the whole culture must be ready. If there is not a general feeling that this is the way to leapfrog competition, it is difficult to make much progress. Digital transformation drives industrial operations efficiency improvements by accessing the right information at the right time to make the right decision. To get its full impact, everyone has to be on board.

The transition also must be focused on solving specific problems, for example, addressing a high defect rate or frequent unplanned maintenance. Do not talk about the new technology. Talk about the pain, the problem you want to solve. Moving to decision-making that is guided by applications is a big shift for those working in the plant as well. It is important, to involve operators and supervisors in the design and implementation of any digital industrial solution. This not only helps ensure the solution will address real pain points, but it also builds more ownership in the new system and creates champions within the organisation.

Increasingly, integration will be a defining feature of the food and beverage industry, both regionally and globally. Manufacturing plants will use integration to achieve the operational performance required to remain competitive, while linkages among suppliers, consumer packaged goods companies, and retailers are needed to drive out inefficiencies and address customer needs with pinpoint accuracy. This integration will be built on digital industrial solutions and Industrial Internet of Things capabilities.

For food and beverage manufacturers to be part of this future, they must begin the process today. That is not only because adopting these solutions now provides a competitive advantage, but also because the digital transformation process takes time to become fully operational and advantageous. The benefits, though, are huge.

20% performance improvements today; new business models and revenue streams tomorrow; and future proofing to ensure manufacturers are ready for the food and beverage sector that will use integration to deliver lean supply chains and just-in-time manufacturing to meet highly targeted and fluctuating consumer demand.

PAIN POINTS AND BENEFITS

As GE Digital executives meet with food and beverage manufacturers across the region, they are seeing opportunities for productivity and other operational gains of up to 20% through implementation of digital industrial solutions. Those are huge numbers in an era of tight margins. These digital industrial solutions can be leveraged beyond the factory floor, by linking back into the supply chain and forward to retailers, both online and brick and mortar, and even to consumers.

This type of integration opens the door to concepts such as just-in-time production and incredible flexibility that helps deliver just the right product with just the right features and quality, at the right time to consumers right where they want it.

Digital industrial solutions can deliver a range

KEY TAKEAWAYS

Strategy
- Digital industrial solutions can be leveraged beyond the factory floor, by linking back into the supply chain.
- Long term, digital solutions can help manufacturers achieve efficiencies exceeding 95% and 10% reduction in cost of ownership and cost of production.

Execution
- Just-in-time production to deliver right product with right features at right time to consumers where they want it.
- Opportunities for productivity of up to 20% through implementation of digital industrial solutions.

Cash
- Improved equipment effectiveness, asset utilisation, throughput and product quality, reduced downtime, waste, defects, energy consumption, total cost of ownership.
- Reduce spare parts inventories, drive the shift from scheduled maintenance to predictive maintenance.
- Shorten outage, repair and maintenance times by ensuring right engineer is available at the right time.

Delivering a Big Impact

Manufacturing Execution Systems (MES)

10-20%
reduction in unplanned downtime

20%
inventory reduction

+20%
recovered capacity

Asset Performance Management (APM)

3-40%
EH&S incident reduction

10-20%
reduction in maintenance

5-10%
inventory cost reduction

Field Service Management (ServiceMax)

8%
decrease in field service costs

9%
increase in equipment uptime

13% decrease in average time-to-repair

By bringing together new and inexpensive technologies such Internet of Things, sensors, cloud, big data analytics, Internet connectivity, digital industrial takes industrial data, analyses it to gain insights into how operations can be improved, and then enables operators to make changes on the factory floor.

Digital Twin

40%
reduced reactive maintenance in less than 1 year

75%
reduced time to achieve outcomes

US $11 Million
avoided in lost production by detecting and preventing three failures

APM and Digital Twin

Throughput improvements for CPG bottling line (filling and labeling):

8%
increase in throughput

US $1 Million
per line per year

Note: These results were achieved by GE Digit customers around the world

At the heart of the process is connecting data, which comes from sensors attached to equipment, as well as from 50 to 75 applications running in a facility. The benefits include increased productivity, preventive maintenance, and reduced errors as well as greater consistency, higher throughput, and improved compliance.

By bringing together new and increasingly inexpensive technologies such Internet of Things, sensors, the cloud, big data analytics, and Internet connectivity, digital industrial takes industrial data, analyses it to gain insights into how operations can be improved, and then enables operators to make changes on the factory floor.

The benefits include increased productivity, preventive maintenance, and reduced errors as well as greater consistency, higher throughput, and improved compliance. At the heart of the process is connecting data. This comes from sensors attached to equipment, as well as from the 50 to 75 applications typically running in a facility. With this data providing visibility into operations, more insightful SWOT analysis helps identify opportunities for improvement.

Longer term, once an operation has been optimised, digitisation can become a driver of innovation. Some of the main digital industrial applications in use include Asset Performance Management software to help optimise equipment performance and enable predictive maintenance, and Field Service Management, software that helps improve efficiency of the repair and maintenance process.

Manufacturing Execution Systems bring these optimisation capabilities from the asset level to the facility level, while Digital Twin software creates a virtual representation of an asset or process in order to help operators explore changes to outside factors or controlled inputs in order to identify more optimal operating parameters to improve operations or prepare for external changes such as weather, requested customer changes, or some change in manufacturing inputs. ■

Source excerpted from: A Bold Future for MENA Food and Beverage Manufacturing, by GE.

of benefits, including improved overall equipment effectiveness, asset utilisation, throughput and product quality, and reduced downtime, waste, defects, energy consumption and total cost of ownership. Additionally, digital industrial solutions can help reduce spare parts inventories and drive the shift from scheduled maintenance to predictive maintenance for improved productivity.

It can help organisations to shorten outage, repair and maintenance times by ensuring that the right engineer is available at the right time with the necessary equipment, parts, equipment history and repair expertise.

Ultimately, in addition to double–digit productivity gains that GE has determined can be achieved in the near term by many food and beverage manufacturers in the MENA region, looking long term, digital solutions can help these manufacturers achieve operating efficiencies exceeding 95%, and a 10% reduction in total cost of ownership and cost of production, delivering better pricing to consumers and better margins to manufacturers.

CROSS-DEPARTMENTAL COLLABORATION WILL ENABLE GOVERNMENTS TO OFFER A PERSONALISED EXPERIENCE TO CITIZENS, RATHER THAN FORCING CITIZENS TO NAVIGATE SILOED BUREAUCRATIC PROCESSES.

DIGITAL TRANSFORMATION OF NATIONS AND CITIZENS

Just like any commercial industry in the region, governments are also being influenced to relook at their citizen services, rebuilding them on the latest digital platforms and management practices.

Every business of every size is facing fundamental disruption because of new technologies, players, ecosystems, and ways of doing business. Moreover, the performance gap between digital thrivers and survivors is expanding, which can in turn accelerate economic and social divides.

Cognitive computing advances — along with the rise of robotics, the Internet of Things IoT, artificial intelligence AI, augmented reality, virtual reality and machine intelligence — are enabling IT systems to mimic and enhance human intelligence in real time and are creating entirely new product categories and industries.

For example, AI is changing the role of the knowledge worker. The ability to apply computing power to complex situations will thus become an essential component of clerical work, allowing public employees to personalise or contextualise services to individual constituents. Technology will become a cognitive companion, rather than a tool used simply to automate repetitive tasks.

The intrinsic economic basis of the physical marketplace is scarcity. However, in the digital world, scarcity is being replaced by abundance. In fact, IDC reports that less than 10% of data is effectively used by organisations. The more often a digital asset is used to transform data into information, knowledge, and insights to improve user experience, influence decisions, and set directions, the more valuable it becomes.

Technology platforms are enabling many-to-many exchanges between businesses, consumers, governments, academia, and community organisations and are amplifying the network effect of economic relationships. Competition is also increasingly leading to platform-based communities and ecosystems in which global technology players such as Amazon, Microsoft,

Facebook, Alibaba, and Google have a chance to dominate a given market. While market consolidation limits choices, it increases the power of consumers because a critical mass of partner ecosystems and solutions converges around a select constellation of platforms.

As rapidly changing technologies transform the market, businesses and public sector institutions that do not have employees with evolving up-to-date skill sets will fall behind competitors. People who possess business and IT skills are currently in high demand, particularly those with leadership, analytics, and coding skills and experience with managing large- scale projects.

Wearable, mobile, and connected devices in cars, homes, cities, and on people — which are all linked to cloud-based telemetry and data — are affecting every aspect of personal, civic, and professional lives and changing the boundaries of privacy. Legislators are struggling to find a balance between the need to protect data and ensure privacy and the desire to innovate and improve collaboration across government departments, industries, and countries.

AYOUTS WILL BE REDUCED ADMINISTRATIVE WASTE, INCREASED PERSONALISATION OF PUBLIC SERVICES, GREATER DATA VALUATION, MONETISATION OPPORTUNITIES.

TRANSFORMATION OF PLATFORMS

In a few decades, IT use in the government has transitioned through three service delivery platforms:

1ST PLATFORM

Mainframes supporting government back offices kept records of purchases, tax collections, and welfare payments.

2ND PLATFORM

Front-office contact centers and web portals started to provide eservices to constituents, and client-server applications enabled civil servants to automate middle-office processes such as approving a building permit or determining eligibility to a grant programme.

3RD PLATFORM

Technologies including mobile computing, social media, cloud, and big data analytics are digitally transforming nearly every aspect of the lives of citizens taxpayers, voters, patients, students, businesses, tourists, and communities, government employees, civil servants, military personnel, first responders, clinicians, and teachers, and government partners other governments, private companies, and non-profit organisations supplying products and services to the public sector.

The next round of technology breakthroughs, including robotics, natural interfaces, 3D printing, IoT, cognitive systems, and next- generation security, will further accelerate digital transformation.

National governments have a responsibility to embrace digitalisation to spur the economic progress of their countries. However, national governments should work closely with regional and local governments when doing so.

In fact, IDC predicts that countries that can quickly move cities along their Smart City transformation journeys will have tremendous success in their digitalisation efforts chiefly, because cities account for nearly 60% of the global population, 75% of global gross domestic product, and 75% of the energy consumption of an average country.

This is even more true in Saudi Arabia, where over 80% of the population already lives in cities. As digitalisation becomes an important enabler of economic and social development, cities will play a fundamental role in achieving overall innovation, efficiency, and inclusion.

Digital transformation is not a simple piece of technology that governments can use to solve all their challenges. Rather, it is a continuous improvement journey along five dimensions: Leadership Transformation, Omni- Experience Transformation, Information Transformation, Operating Model Transformation, and WorkSource Transformation.

TRANSFORMATION OF CITIZENS

Citizens are demanding a more transparent,

THREE LAYERS OF GOVERNMENT DIGITAL TRANSFORMATION

TRANSFORMING PUBLIC ADMINISTRATION
This level is not just about making government operations paperless; rather, it involves leveraging the power of digital technology to integrate processes with front-end operations and make them more efficient and responsive to change. In the context of Vision 2030, the development of shared services capabilities is the perfect example of how the Saudi government could transform public administration through digital technologies.

TRANSFORMING PUBLIC SERVICES
Putting services online is no longer sufficient; governments must instead offer a seamless omnichannel experience. They must leverage data to optimise service value streams across government programmes. Cross-departmental collaboration will thus enable governments to offer a personalised experience to citizens, rather than forcing citizens to navigate siloed bureaucratic processes. Governments must further leverage digital technology to orient and integrate education, human services, and healthcare ecosystems around the citizen.
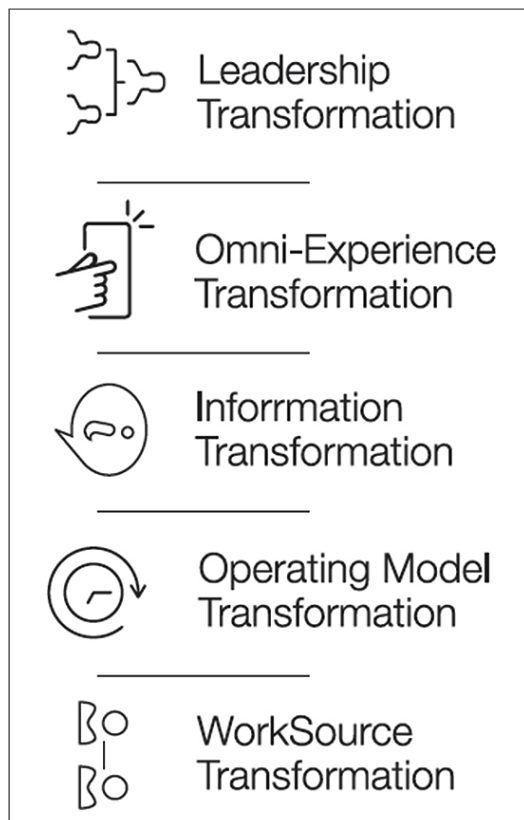
TRANSFORMING THE COUNTRY
A more efficient, effective, and transparent government can help citizens and businesses become more productive and engaged with the social fabric of local communities. Governments also sit on a treasure trove of data that can be utilised to spearhead innovation across industries. In the context of Vision 2030, the government's digital transformation plan can lift Saudi Arabia's ranking on the Global Competitiveness Index to a top-10 position.

participatory, and responsive government that provides seamless digital service experiences like those provided by commercial entities. Citizens are also more aware that technology can make cities safer, improve the quality of healthcare and educational services, and make electricity and water infrastructures more resilient. As such, governments that do not proactively respond to citizen demands risk being confronted by disenfranchised constituencies.

Governments around the world are under pressure to reduce costs, increase productivity, and cut waste. In particular, governments in the Gulf region have been experiencing intense economic pressures over the past two years because of declining oil revenues. This implies, for example, that governments cannot simply replace their legacy systems and processes outright; instead, they must transform incrementally by proving the value of new technology for specific use cases, and rapidly scale thereafter.

Disadvantaged communities in certain areas of a

- Leadership Transformation
- Omni-Experience Transformation
- Inforrmation Transformation
- Operating Model Transformation
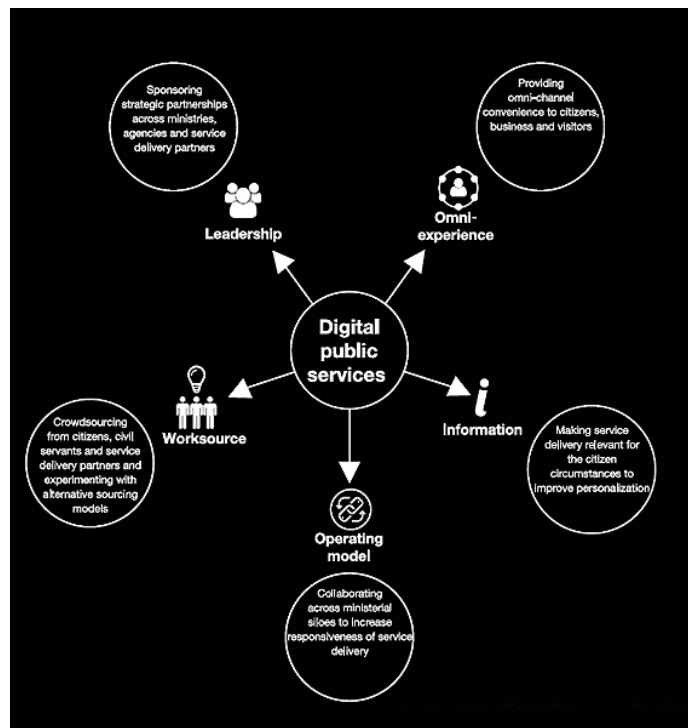- WorkSource Transformation

To realise the potential benefits of digital transformation, senior government executives should envision a roadmap that entails all the five pillars of digital transformation.

Digital transformation guidance for senior government officials.

IDC predicts countries that can move cities along their Smart City transformation journeys will have success in their digitalisation efforts, because cities account for nearly 60% of global population, 75% of global gross domestic product, and 75% of energy consumption of an average country.

country or city tend to live in a self-reinforcing vicious cycle of exclusion from work; they also typically remain dependent on multiple uncoordinated welfare programmes. Members of these communities also face worsening physical and mental health conditions and are sometimes involved in criminal activities. Multiple government entities must therefore make great efforts to break this vicious cycle and ensure that disadvantaged groups absorb a greater share of public resources.

National governments have a responsibility to embrace digitalisation to spur the economic progress of their countries. However, national governments should work closely with regional and local governments when doing so. In fact, IDC predicts that countries that can quickly move cities along their Smart City transformation journeys will have tremendous success in their digitalisation efforts.

This is chiefly, because cities account for nearly 60% of the global population, 75% of global gross domestic product, and 75% of the energy consumption of an average country. This is even more true in Saudi Arabia, where over 80% of the population already lives in cities. As digitalisation becomes an important enabler of economic and social development, cities will play a fundamental role in achieving overall innovation, efficiency, and inclusion.

PILLARS OF DIGITAL TRANSFORMATION

Digital transformation will unleash opportunities for government leaders to adapt public administration and public service delivery. To realise the potential benefits and minimise risk, senior government executives should envision a roadmap that entails all the five pillars of digital transformation.
· Leadership

- Omni-experience
- Information
- Operating Model
- WorkSource
- Leadership

Digital transformation breaks value chains. To build new capabilities, reconfigure service delivery value chains, and design financially sustainable programmes, government leaders must embrace a combination of strong internal sponsorship and innovation from the middle out, that is innovation from inside the particular organisation.

Leaders must be catalysts for change, but people in lower ranks should also be able to generate new ideas. Since government leaders want to extend the impact of digital transformation from public administration and services to the broader economy, they must engage with the broader ecosystem to configure new value chains.

OMNI-EXPERIENCE

Digital services will be at the core of the omni-channel citizen experience transformation. Focus must be placed on designing an end-to-end service journey that increases convenience for citizens and businesses. For a broader set of constituents, like voters, international donors, non-profit institutions, and government suppliers, digital omni- experience can help boost the transparency of the government and increase trust it its leaders and programmes.

INFORMATION

Governments must treat data as a strategic asset. They must enhance information governance and security practices and apply interoperability standards to have more integrated and higher quality data sets that they can use with advanced analytics and cognitive tools. The payouts will be reduced administrative waste, increased personalisation of public services, and greater data valuation and monetisation opportunities in the context of the broader data economy.

OPERATING MODEL

Siloed government operations must be broken down. Without back-office service re-usability, administration efficiency and transparency will be hard to achieve. Furthermore, without cross-programme information sharing, an omni-channel experience cannot be offered across public services. As government leaders look to engage with the broader ecosystem, open innovation operating models must be on the agenda.

KEY TAKEAWAYS

Strategy
- IDC predicts countries that can quickly move cities along their Smart City transformation journeys will have tremendous success.
- Putting services online is no longer sufficient and governments must offer a seamless omnichannel experience.
- Governments must leverage data to optimise service value streams across government programmes.
- Governments must treat data as a strategic asset.
- National governments have a responsibility to embrace digitalisation to spur economic progress of their countries.
- Digital transformation breaks value chains.

Execution
- National governments should work closely with regional and local governments when doing so.
- Governments must leverage digital technology to integrate education, human services, and healthcare ecosystems around the citizen.
- Governments must enhance information governance and security practices and apply interoperability to have more integrated and quality data sets.

WORKSOURCE

Governments must enable their employees to play an active role in digital transformation by offering them the work tools of the future including mobility solutions, social collaboration, analytics, and dashboards for autonomous data-driven decision making. However, government workers alone cannot meet the increasing demand for more convenient, efficient, and transparent public services; as such, partnering with commercial technology and service providers will be key.

Product-driven technical service level agreement-centric contract enforcement will stifle innovation, while collaborative governance will favor service innovation. In the context of the broader data economy, cognitive computing and robotics will be the most disruptive forces in the lives of workers across industries.

These forces will increase worker safety and efficiency but may also drive extreme automation and thereby reduce the need for the following employees:
- Service workers
- Packaging operators
- Equipment operators
- Transport drivers

Governments should work with private sector organisations and educational institutions to design a roadmap for re-training personnel and changing educational programmes. Furthermore, governments should build social safety nets for those who may experience extended periods of unemployment. ■

Source: Excerpted from A Digital Government Vision for the Kingdom of Saudi Arabia by IDC.

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BT BUSINESS TRANSFORMATION

BUILDING A SCHOOL OF DIGITAL TRANSFORMATION FOR BIZ

The art of digital transformation needs to be learnt by organizations, some may find it easy and others tough, writes Chris Pope at ServiceNow.

CHRIS POPE, *Global Vice President of Innovation, ServiceNow.*

There are college degrees in computer science and software engineering that feature various different programming languages and methodologies. Looking further, there are technical architecture courses and many extended forms of tuition designed to school us in every aspect of technology you can think of.

Yet, despite all these channels of teaching and the many books that have been written to explore our world of technology, we appear to largely fail when it comes to formalising a wider approach to simply teaching digital.

Understanding digital, the subject, the discipline itself, is a prerequisite if firms are going to actually appreciate where new and emerging technology will have an impact on an organisation.

The consequences of not embracing digital and the process of moving fundamental work operations to new cloud-based, services-driven platforms leads to something of a vicious circle. Firms start to haemorrhage employees who look to move into roles where they will be more productive. And as a consequence, the company is left with a digital skills shortage.

Firms that do embrace digital platforms effectively will, in contrast, start to develop tighter integration and collaboration across initiatives that are being played out across the business. Digital teams start to realise that the fundamental skills, approaches and execution methods they need to learn are the same across different company departments for different use cases.

The harder part of learning digital is understanding how it will change the business in the short, medium and long-term. Firms will need to do that in order to be able to scale new digital work methods organisation-wide.

The proliferation of digital platform technologies throughout contemporary organisations has meant that it has become a key element in how user experience strategies are formed.

Forward thinking CXOs now regard digital as a key front-line operational topic, much like they have regarded issues such

> THE HARDER PART OF LEARNING DIGITAL IS UNDERSTANDING HOW IT WILL CHANGE THE BUSINESS IN THE SHORT, MEDIUM AND LONG-TERM.

as cybersecurity since the turn of this decade. The creation of smart spaces and digital workspaces has become more mainstream as a method used to improve employee and customer experience and will feature prominently in the next evolution of smart cities.

But digital as a discipline comes with some responsibilities. As we now focus on the resurgence of the importance of enterprise data and its quality and quantity, we must also work hard to ensure we reduce technical debt and the presence of legacy platforms that are unfit for current and future purpose.

We must also now engineer our business models to enable continued adoption of commoditised cloud services. Within this area, we need to engineer for digital with enough precision to enable the use of microservices that will deliver discrete chunks of application logic for faster and more intelligent systems.

Positive results come from thinking, doing and working digital. Within a defined timeframe we get to a point where we can deliver on customer and employee experiences, quicker and better, and organisations on this digital journey start to shift from project delivery to product delivery.

The presence of the Internet of Things IoT, edge computing layer and all the smart things inside any given organisation's own digital universe starts to coalesce inside a new data analytics fabric. That fabric allows us to be intelligently predictive across all departments, rather than work with the knee-jerk reactive standards of the past.

Digital business allows us to start a new process of reengineering. We start to see a foundational transformation

of traditional IT departments that used to be driven by top-down organisational change. Instead, there is a new bottom-up architecture and infrastructure evolution with a focus on pace, agility and people.

Digital business allows us to welcome the no-collar workforce. The rise of smart machines means that many traditional roles can be automated. This means that the organisation of the future may need to rewire talent management for the new workforce and build a culture for increasingly unbounded and virtual teams.

On the road to digital transformation, a new foundation starts to develop around which the business carries out its core functions. Specifically, we are talking about supply chain and finance, these functions are fundamentally being transformed by the convergence of various technologies. In this regard, a cross-functional approach to transformation can drive the most ambitious results.

The next part of the road ahead will feature increasing amounts of augmented reality and virtual reality. Blockchain will proliferate and organisations will start to use exponential technologies such as artificial general intelligence and quantum encryption to create even newer commercial systems, many of which will champion connectivity via application programming interfaces.

Going digital and bringing the new world of work online is a challenge worth embracing. To be sure, navigating the forces of digital disruption positively is not always straightforward. Ultimately though, graduating with a qualification from the school of digital is always worthwhile. ■

KEY TAKEAWAYS

- We appear to fail when it comes to formalising an approach to simply teaching digital.
- Digital business allows us to welcome the no-collar workforce.
- The rise of smart machines means that many traditional roles can be automated.
- Organisations of the future may need to rewire talent management for the new workforce and build a culture for unbounded and virtual teams.
- Consequences of not embracing digital and the process of moving work operations to cloud-based platforms leads to a vicious circle.
- Firms that do embrace digital platforms will start to develop integration and collaboration across initiatives.

TRANSFORMING THE RETAIL INDUSTRY

Five key trends emerged:

1. Lagging in workplace technology:

Compared to other industries, retail has been slow to implement workplace technology. Over a third of those surveyed said that technology in the workplace was an area that required improvement and over a quarter (27%) still couldn't participate in a "bring your own device" practice. More than half (51%) believe that if better implemented, retail technology could bring enhanced collaboration.

2. Employees must be empowered with technology:

Retailers focus obsessively on customer service, but do not always equip their associates with the technologies that can empower them to do a better job. To thrive, the brick-and-mortar retailer of the near future needs to focus on technology at the edge of the network, where associates and shoppers are. It must provide staff with the connected digital tools that allow them to deliver a more personalised service to every customer.
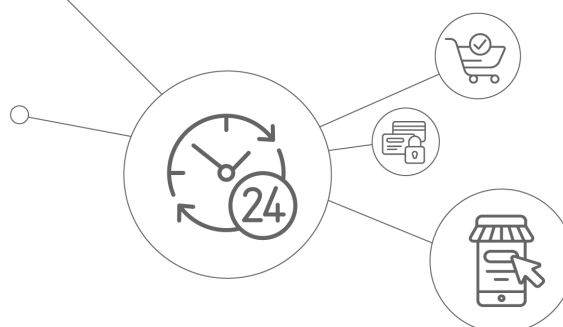
3. A need for deeper insights into stock and inventory:

With growing customer demands to access any item through any channel at any time, the necessity for retailers to have a precise picture of their inventory is essential for increasing profit margins and retaining customers. Only by improving their data systems and making better use of inventory tracking technology can retailers solve the age-old problem of knowing exactly what they have in stock at any given time.

4. The old silos need to be broken down:

Retailers need to prepare for a world where customers pay no attention to the traditional division between physical and online retailers. This will require the internal divisions and structures that currently exist to be broken down, so internal systems blend seamlessly and work together – be it marketing or IT – to deliver the experiences customers now expect.

5. An opportunity to think longer-term:

Our experts reported a tendency for retailers to approach the long-term investment challenge of digital transformation with a mindset that demands immediate results. Instead, they argued, retailers need to accept the necessity of major investment in both systems and people, and to find new ways of measuring success that do not entail the mothballing of transformation projects that just deliver immediate results, it needs to be about both the short and long-term.

Source: The road to digitalisation in retailing from Aruba HP. The information is based on a recent study from over 900 managers and non-managers at global retailers.

REGIONAL REALITIES OF CUSTOMER EXPERIENCE

7 key insights **into the global CX landscape**

1
CX transformation **is recognised as important but it's not delivering expected returns.**

Almost *9/10* see CX as a competitive differentiator

Only *10.9%* have promoter-level CX rating

Benefits of improved CX capability:

87.2% believe CX increases customer loyalty.

68.1% say improved CX increases revenue/profits.

61.9% see increased employee engagement as the greatest benefit of CX.

2
Connected CX journeys **show huge intent but there's limited channel integration.**

Omnichannel strategy/connected customer journey a *top three trend* for empowering CX delivery in 2017

Yet only *8.4%* have all channels connected
Focus is on evolving multichannel strategies:

54.1% say their multichannel strategy is evolving and includes a customer-focused digitalisation plan.

Only *7.2%* consider their omnichannel strategy to be robust with a clear value proposition and return criteria.

21.9% have no formal strategy defined.

3
Digitalisation **benefits are obstructed by limited channel adoption.**

56.9% indicate that customer awareness is the main factor affecting adoption.

63.2% consider customer demand as the strongest driver of digital transformation.

57.0% increase from 2017 in listing competitor pressure as a reason for digitalisation.

79.0% believe digital transformation will improve CX.

58.4% believe digital channels will reduce costs.

4
Robotic automation and AI **are forecasted to be the go-to model for future-proofing CX.**

Percentage of organisations advancing AI:

Virtual assistants will quadruple to *61.5%*.

Proactive automation will triple to *59.8%*.

59.8% will be leveraging IoT.

5
Customer analytics **transforms into market intelligence.**

No shortage of intelligence, but still no single view of the customer.

Analytics named the top factor to reshape the CX industry for the fourth year running:

Only *13.5%* say their current analytics capability is optimised.

50.1% say their data analytics capability is growing.

8.5% say they're struggling with too much data.

6
Technology enablement -
the gap between risk and readiness widens.

Analytics the top technology trend prioritised by CX teams.

Only *15.3%* say their analytics systems will meet future needs.

Challenges affecting CX technology systems:

54.0% say legacy systems are restricting growth.

25.5% cite skill shortages as a key concern.

22.8% say their main focus is simply maintaining business as usual.

50.1% say they are restricted by budget.

7
Meaningful customer interactions depend on *employee experience and workforce optimisation.*

Customer satisfaction (CSAT) levels way below optimal.

Most organisations are failing to meet CSAT targets and CSAT is at a record low:

39.5% do not measure employee experience or employee engagement levels.

40.0% have recognised the need to adapt management techniques for the evolving workforce.

56.6% have adopted flexible working arrangements for employees.

Source: 2019 Global Customer Experience Benchmarking Report from Dimension Data. The 2019 findings reveal a gap between CX ambitions and CX capabilities, from strategy to implementation.

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