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Azz-Eddine Mansouri, Ciena



Dr Hari Prasad, Apollo Hospitals



Dr Mukesh Batra, Dr Batra's Group of Companies



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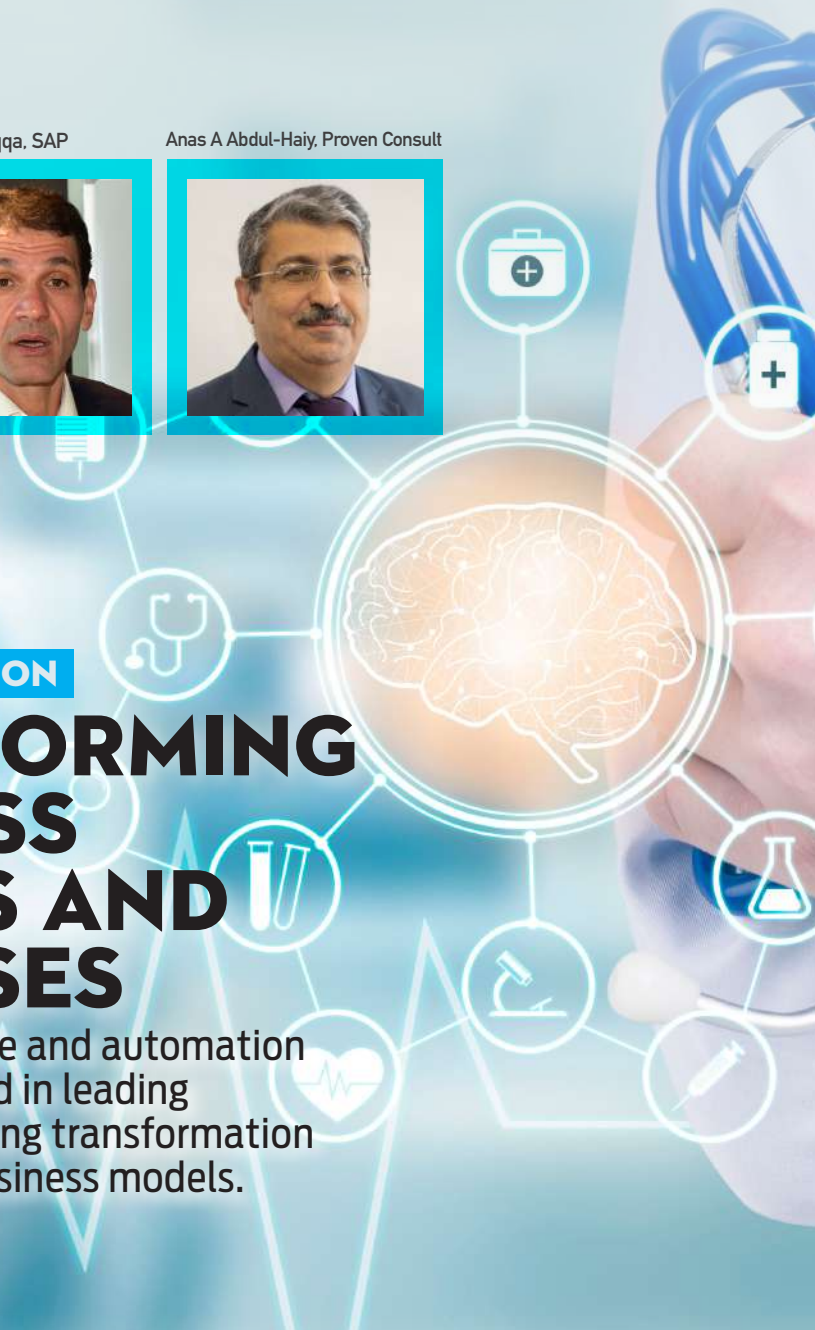


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Artificial intelligence and automation are being embedded in leading technologies boosting transformation of use cases and business models.





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INTELLIGENT AUTOMATION RAPIDLY MOVING OFF HYPE CYCLE

The usage of artificial intelligence and automation is already underway in mainstream life. Data is the fodder to generate any type of modelling or behavior leading to a business outcome. Thierry Nicault, at Salesforce, explains that its Einstein Bot has enabled 83 million guest conversations at Marriott's AI-powered customer recognition platform. Einstein,

the Salesforce AI platform, delivers 3+ billion predictions every day, helping customers make smarter decisions. All from data aggregated in the cloud. Alaa Elshimy at Huawei's Enterprise Business Group points out that scaling in both compute and coding skills is fundamental to get returns from artificial intelligence and automation, also known as intelligent automation. The aim is to support five million developers to develop the next generation of intelligent solutions. Elshimy believes statistical computing will become mainstream and AI computing will account for more than 80% of all computing power used around the world.

Amongst the primary uses case of artificial intelligence and automation, is within the IT industry itself. Alain Penel at Fortinet, explains that complexity and huge number of false positives are over burdening cyber security organisations. Alert fatigue is causing events to slip by unaddressed for longer periods of time.

Lack of suitable integration means security teams are getting alerts to possible security events from a multitude of devices. To remediate, FortiGuard Labs ingests and analyses more than 100 billion security events, giving unprecedented view of global threat landscape.

Other than security, servers, and data centres, enterprise and service provider networks are also becoming overburdened with complexity and workloads, making automation an immediate requirement. Azz-Eddine Mansouri at Ciena explains that as networks become complex, the ability to dynamically adapt is crucial for maintaining quality of service. Network complexity has led to the formation of underutilised, over-engineered networks and many manual processes.

Hospitals and patient care also represent a significant greenfield to get returns from large scale, aggregated, systematic and pointed collections of data. Hospitals like Apollo Group are churning multiple decades of clinical and patient data to build models of healthcare that can be applied to hospital and corporate workers.

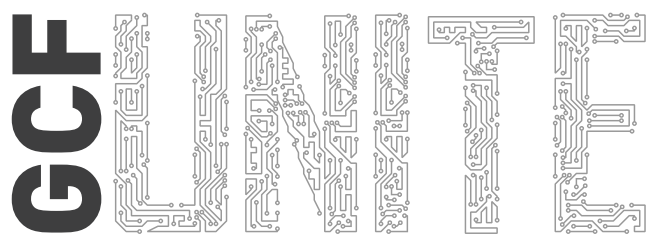
Dr Hari Prasad, President at Apollo Hospitals Group, explains that ProHealth has been developed based on the experience of over 20 million health checks conducted at Apollo hospitals. This database is huge and has not been done by any other institution across the globe.

Similarly, Dr Mukesh Batra, at Dr Batra's Group of Companies, is now using gene tracker testing to rapidly identify the most suitable homeopathic treatment for a patient in select areas, after completing gene testing. The complete archive of medical data for Dr Batra's Group of Companies, is now stored at the back end in a structured manner, in the form of an RDBMS system.

Catch the rest of our fascinating industry and invited expert dialogue in the pages ahead.

Powering you for rest of the month.

Arun Shankar
arun@gecmmediagroup.com



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HOW INTELLIGENT AUTOMATION IS IMPACTING BUSINESS AND USE CASES



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LOOKING GLASS

WHY ORGANISATIONS NEED EMPLOYEE WELLNESS PROGRAMMES

Multiple types of organisational wellness activities help to boost employee performance and organisational productivity, explains Ektaa Sibal.



Ektaa Sibal is an International Inner Self, Transformation Specialist and an International Meditation Expert, Speaker and a Gifted Energy Healer with inborn intuitive abilities.

An average employee spends almost 40 hours a week and eats about one third of their meals at work making it essential for organisations to transform their culture and make corporate wellness a part of it. It is imperative for organisations to create a more holistic view towards employee wellbeing.

Organisations with highly effective health and productivity programmes report 11% higher revenue per employee, 1.8 fewer days absent per employee per year and 28% greater shareholder returns, according to Buffett National Wellness Survey. The top 5 symptoms causing missed work days are constant fatigue,

sleeplessness, aches and pains, high anxiety and low immunity.

Studies show that being unhappy or unfulfilled in work can impact health, relationships and even lifespan of individuals. Work eco-systems that makes employees feel stressed, dejected or unenthusiastic, tend to have more health issues – physical and mental, and higher rates of absenteeism. The stress may impact family life and even increase the risks of chronic illnesses or heart attacks.

Corporate wellness programmes typically bring to mind, images of treadmills and salads. However, physical health is just one dimension of overall wellness. Many people exist in a constant state of stress because of work deadlines, relationships, parenting or even commuting in traffic. Just getting through every day without losing one's cool is becoming increasingly challenging.

That is why corporate wellness programmes are designed to support and encourage a holistic approach to employee wellbeing. They create an organisational culture of health by offering wellness solutions that extend beyond traditional wellness programmes, and cultivate healthy habits among employees.

Wellness matters because everything an individual does and every emotion they feel directly relates to their well-being, and achievement of their professional goals impact organisational performance. Employee wellness

programmes have multiple benefits, both for the employers and the employees.

Some of the benefits of incorporating corporate wellness programmes in the organisation include stress reduction; healthier individuals; work life harmony; influence on culture; boosts productivity; reduces absenteeism; improves recruitment and retention; builds morale; and increases adaptability.

The heart of any business is its people. They are the organisation's liveliness and force towards the future. Some of the activities that an organisation can incorporate as a part of a corporate wellness programme to bring about transformation include:

- Regular group meditation sessions
- On-premises counsellor at workplace
- Observe health related occasions
- Encourage fun related work breaks
- Organise indoor games and activities
- Create hobby clubs encouraging camaraderie

Wellness at workplace should not be confined to health insurances or health checkups but should extend to all those areas that can improve physical, mental, social and intellectual wellbeing. Putting a well curated corporate wellness programme is the need of the hour to transform people's lives and in turn transform the organisation. ■

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CUSTOMER EXPERIENCE IS A TRANSFORMATION PRIORITY

Whichever technology and omni channel strategy is used, a customer will remember how you made them feel, elaborates Paul Potgieter at Dimension Data.



PAUL POTGIETER,
Managing Director,
Dimension Data Middle East.

There is no doubt that digital technologies have dramatically disrupted customer engagements, ushering in a new era of customer experience. Social media, mobility and the myriad of digital channels have irrevocably altered how customers connect with brands. With the convenience and efficiency that these digital channels afford, customer expectations are now greater than ever before.

A few decades ago, companies could compete on the basis of the quality of their offerings and brand equity alone. But in today's global marketplace, consumers are spoilt for choice. Consider the banking

sector – the established players are seeing their market share being eroded by an entirely new breed of digital-first competitors. These new entrants are managing to woo away customers by offering them personalized services via the channel of their choice – be it mobile, web or even via messaging applications such as WhatsApp.

With this levelling of the playing field, it is emotions and experiences that dictate whether customers remain loyal to your brand. In time, they might forget the nuances of their engagement with your organization, or even the specifics of your product or service – however, they will most certainly remember how you made them feel!

It is clear that business leaders are aware of this shift in consumer mindset, where almost nine out of ten organisations now see customer experience as a competitive differentiator. This research further went on to find that benefits of a well-executed customer experience strategy include customer loyalty, increased revenue and increased employee engagement. It is now clearer than ever that customer experience is a core differentiator, but that is only if you can make it happen!


So, this begs the question – how can you transform the customer experience your company delivers and turn it into a competitive edge? Here too, research provides clear insights.

The #1 factor enhancing customer experience is ease of resolution – in a world where everything from groceries to flight bookings are available at one's fingertips, customers expect instantaneous service, and the faster their requests or complaints are resolved, the happier they will be.

It naturally follows that agent knowledge stands out as the second most important factor impacting customer experience. After all, if your customer service agents are well informed and knowledgeable, they are going to be better prepared to rapidly respond to customers.

Finally, it is evident that it is no longer organizations that can dictate how customers can contact them. Today, it would be near impossible to convince a millennial to carry out a bank transfer by visiting a physical branch if there is a digital alternative. If your competitors empower customers to connect with them via the channel of their choice, and you do not – you can be sure an exodus is set to follow.

While digital technologies will continue to transform modern enterprises, customers and human element of their interactions will remain at the heart of business. Prioritizing this and empowering your customers to interact seamlessly with you across multiple channels will ultimately drive the long-term success of your business. ■



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for Sunday
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THREAT ACTORS CAN BRING DOWN A CITY BY TARGETING OT

The integration of OT and IT environments requires a single pane of glass to view both vulnerabilities, explains Maher Jadallah at Tenable.



MAHER JADALLAH,
Regional Director Middle East,
Tenable.

As a sector of critical importance, disabling energy-sector assets has a severe effect on a nation's economy, denying access to basic services and impacting GDP. Governments around the world caution that the threat to infrastructure will worsen rather than lessen.

These attacks come to the fore as digital transformation programmes are rolled out across the region with the introduction of new technological tools to benefit the bottom line through enhanced efficiency and output. This has led to the convergence of both the data side of the business, traditionally the realm of IT, and the operational technology OT side, used to manage industrial control systems ICS. As previously siloed systems are being meshed together, organisations are being exposed to new threats.

Caught in the middle are the IT and security professionals tasked with securing these new intertwined systems in the face of compelling

business arguments. However, they must remediate security threats against the impact on the organisation.

These include:

OT environments are often structured around legacy technologies. Designed for process functionality and safety, OT was often secured via isolating initiatives, such as air gapping. As modern plants increasingly connect machines, devices, sensors, thermostats and so on to the Internet, this is no longer feasible.

Most organisations that rely on OT have a zero-tolerance policy to downtime given the business criticality of the systems. For example, an energy provider may operate 15 or 20 different sites. It is not a simple, or even quick, process to shut down a treatment system to fix a vulnerability in a programmable logic controller PLC, even if we were to ignore the impact it would have further in the process. That said, could the business afford to risk a threat actor exploiting a vulnerability that could damage the plant or even threaten life?

IT network solutions do not always transfer to OT environments. A poorly timed security scan that probably would not even be noticed in an IT network could have a profound impact on sensitive OT environments. For example, potentially knocking out the gauge on a pipeline, causing a drill to malfunction or even taking the whole plant offline.

Passive monitoring can help organisations solve this issue, allowing them to safely profile the

network and devices connected to it. In this way, they can understand how assets are unprotected, and recognise and fix vulnerabilities without impacting system functionality.

While vulnerabilities are discovered in OT technology, there have been occasions where a patch to fix the flaw is not forthcoming. If you cannot patch, then what else can you do to secure your environment?

Staff responsible for OT security cannot afford to be blinkered and focused only on OT vulnerabilities. The convergence of IT and OT means both ICS and IT vulnerabilities can be exploited to attack critical infrastructure. Therefore, viewing both systems together through a single pane of glass is the only way to view risks holistically.

Finding a solution to any problem begins with acceptance. It is essential that IT and OT professionals understand the increased attack surface if their organisation is to moderate their business risk. Although embracing solutions remains a challenge, organisations can take several steps.

First and foremost, they must understand the whole picture. Clear and complete visibility of the attack surface allows organisations to identify, address and mitigate cyber risk. This includes both IT and OT systems.

With a clear outlook of the threats, the next step is determining what is important to the organisation's ability to function – and whether it is vulnerable to attack. Vital assets across the board must be identified and the steps to secure them

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BUILDING YOUR DIGITAL TWIN BY INTEGRATING PROCESS DATA

Enterprises with large pools of data can build prescriptive and predictive models of analytical behavior explains Andrew McCloskey at AVEVA.



ANDREW MCCLOSKEY,
Head of Research and
Development, AVEVA.

When big data comes to mind, what do you think of? Big data is a term used to describe extremely large data sets that may be analysed to reveal patterns, trends, and impact of human interactions. In most enterprise scenarios the volume of structured and unstructured data is too big, or it exceeds current processing capacity.

Unlocking the power of industrial data is the holy grail for many companies. Big Data has the

potential to help companies improve operations and make faster, smarter decisions. But where should you start?

Digital technology can help you design, manufacture, deliver, support and maintain products faster, more efficiently, and at lower costs. By bringing together previously inaccessible data streams, enhancing live visibility and analysis of your operations, and driving actionable insights based on better information, you can improve enterprise performance by: reducing unscheduled downtime; improving regulatory compliance and safety; integrating supply chain logistics with customer operations; optimising maintenance strategies; enhancing situational awareness; reducing waste; and increasing overall equipment effectiveness.

Key to achieving these benefits is creating a seamless and continual stream of process and production data that is integrated with accurate historic operations information and then contextualised into new insights on your overall enterprise. Furthermore, new digital tools can tap into these existing data stores and synthesize them with operational data. This process generates improved insights on how to maximise value creation across asset and operations lifecycles.

Digital transformation merges the latest innovative tools and

processes with your in-house domain expertise. This enables not only the contextualisation of new and existing data but also delivers actionable insights and information. The enterprise can then execute upon these new insights and close the loop towards continuous process improvement. This takes time and often involves adopting many diverse technologies and processes to continually build momentum towards sustained operational excellence.

The National Grid Corporation of the Philippines, is responsible for delivering safe and reliable power to customers in the Philippines using more than 21,000 circuit kilometres of transmission lines. Cost, resource and energy optimisation pressure drove NGCP to invest further into actionable intelligence. The average modern plant has tens of thousands of sensor data elements, and organisations need the proper context to take advantage of that information.

By using a data management solution, NGCP consolidates data from control, monitoring and business systems in a fully redundant server architecture, protecting the company's data in the event of an unexpected shutdown. Control center operators can now access high-fidelity, real-time data to improve decision support while aligning with a strategic initiative to upgrade, expand and strengthen

KEY TAKEAWAYS

- Prescriptive analytics describes what is needed to optimise asset and operations lifecycles.
- Predictive analytics is used for what-if type modeling.
- Big data is a term used to describe extremely large data sets that may be analysed to reveal patterns.
- In most enterprise scenarios the volume of structured and unstructured data exceeds processing capacity.
- Unlocking the power of industrial data is the holy grail for many companies.
- Big Data has the potential to help companies improve operations.

transmission operations.

The faster your team can collect, visualise and analyse data, the faster it is empowered to take insightful action that will benefit your operations and your customers.

The overall tactical objective in achieving digital transformation is to create a real-time operational control loop that accurately and efficiently manages your enterprise, based on information and analytics:

#1

Real-time operational information to understand what is happening in real-time and enable the condition management of asset and operations lifecycles. For example, a dashboard displaying the vibration frequency of a rotating asset such as a turbine during operation, provides real-time understanding of the asset's operational behavior and state.

#2

Accurate historical information helps you to understand what has happened in the past to create intelligence around operational behavior of assets. Through operational trends, display of KPIs and dashboards, you can create abstract views of operational states.

For example, a graph may be displayed on a dashboard showing the turbine's past vibration frequency during operation. This can be compared to the real-time vibration frequency, creating intelligence on the asset's long-term operational trends.

#3

Predictive analytics is used for what-if type modeling. Integrating up real-time and historical data enables your team to assess potential outcomes of operational states and behaviors, even accounting for tertiary variables. Deterministic or non-deterministic models can then

be applied for open-loop simulation and predictive analytics. For example, given the turbine's current maintenance state, you can now estimate how long it can run before it fails.

#4

Prescriptive analytics describes what is needed to optimise asset and operations lifecycles. Scenario-based guidance is created and delivered through learning elements and closed-loop algorithms to enable your team to calibrate planning and scheduling across the entire enterprise value chain. For example, using a unified supply chain model, scenario-based calculations can be used to optimise maintenance schedules and performance, minimising impact to your operations.

The use of Big Data is becoming a crucial way for leading companies to outperform their peers. In most industries, established competitors and new entrants alike will leverage data-driven strategies to innovate, compete, and capture value.

Major investments upfront are not required to begin a digital transformation journey. According to McKinsey & Company, when technologies, such as intelligent data management, cloud, advanced analytics, and digital twins are pursued as part of an organisational digital strategy, they can play a role in improving operating margins by as much as 20%.

Understanding and capitalising on the benefits of Big Data and digital transformation is part of an ongoing journey towards continuous process improvement involving the collaboration of people, processes and assets through technology. It does not happen all at once, but instead builds momentum over time as people, processes and assets are digitally fused together to bridge the operations technology and information technology gap. ■



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LOW-CODE, NO-CODE DISRUPTING APP DEVELOPMENT

Arrival of low-code, no-code will make it increasingly easy for business to have a say in application development, explains Chris Pope at ServiceNow.



CHRIS POPE,
Vice President Innovation,
ServiceNow.

Software application developers come in many shapes and sizes. Some are hard-core programmers who like to keep their nose in the code 24x7. Some are more focused on systems architecture and integration. Others are slightly less technical and have special skills in project management and team workflow issues. But they are all about to be impacted by the development of low-code environments.

Despite the growth of ubiquitous mobile and the birth of cloud computing, we have come to know a core group of professionals in this space. Most of the developer

world's social cohorts have remained relatively unchanged over the last couple of decades, if not longer.

That standard is about to change. As noted above, one of the new factors driving this evolution is the emergence of low-code and no-code software. New platforms are being built to abstract away some of the algorithmic logic and compute functions that would have previously taken low-level command line coding.

LOW-CODE, NO-CODE

Let us first distinguish between low-code and no-code software. Low-code still requires coding and so is meant to provide a means of shortcutting common functions that a developer might need to create many times over. Why would you develop a calculator or a currency exchange tool, every time you build an application? These are the kinds of functions that can be boxed up and tweaked with some minimal level of custom alignment where necessary.

Low-code platforms are already evolving rapidly and we are seeing use cases for specific line of business functions now being increasingly codified, templated and refined. Essentially then, low-code is still meant for developers.

No-code, on the other hand, does what it says on the tin, and offers a means of creating software without needing to touch the code. No-code tools are often presented with drag-and-drop visual interfaces for users to simply pull around, so that

the software functions the way they want it to.

If a user has a spreadsheet, they can point no-code software at it so that it becomes the source of data. From there the user can build an application that has digital workflow functions and the range of options and outputs required for the business use case in hand.

No-code can be used by developers for experimentation purposes and some shortcutting, but it is essentially meant for commercial businesspeople, analysts, consultants and other non-technical staff.

BOOSTER

If we look at how employees use productivity apps, this is where the benefit of low-code and no-code really comes into play. We can take all the unstructured data in the business, like email, voice recordings and more, and bring them all together with dashboards to present new levels of insight which were previously not achievable.

No-code tools can also be used by businesspeople to create forms-based applications that will gather new information streams from the business. Suddenly we start to get more information about business workflows in a captured, managed and monitored way. This in turn helps the hard-core developer function know more about the operational data needs of the business.

THE DEVELOPER WORLD'S SOCIAL COHORTS HAVE REMAINED RELATIVELY UNCHANGED OVER THE LAST COUPLE OF DECADES.

VIRTUOUS CIRCLES

A virtuous circle starts to develop where low-code and no-code actually help refine and evolve all the software code in the business. Business people can start to create one central portal for all services, be it for on-boarding, ordering stationery, booking training or vacations, and more. The next cycle of applications coming out of the IT department can tap into these efficiencies and a further level of productivity is achieved.

Software built in no-code and some low-code environments will typically be ring-fenced in order to ensure that the apps work independently of an organisation's central IT stack. Once the data housed in no-code apps is proven, it can be integrated into central database repositories as and when needed.

Although there is that segmentation through ring-fencing in no-code and some low-code, the apps themselves will be automatically upgraded when the platform goes through an upgrade.

New features might include enhanced mobile optimisation, sophisticated language translation services and augmentations that take the apps closer to the emerging advantages of artificial intelligence and connections to the Internet of Things.

WIN-WIN

The benefits of both no-code and low-code software are manifold.

Users get more of what they want, developers get potentially fewer requirement requests from the business function, something they traditionally dread, and the business itself attains a higher level of digital workflows built upon a richer information feed that the no-coders have helped drive.

If we engineer more low-code intelligence into our applications using building blocks and business logic that has been proven to work in other work environments, then system security is also improved. This is because we are moving specialist functions to the core of the IT stack so that identity and access controls are compartmentalised. This means we are able to increase consistency and security as a direct result.

SHIFT LEFT

This movement is a classic case of shift left development; that is of back office skills being brought forward to less technical employees so that they learn to problem-solve and answer more difficult questions for themselves.

The final virtuous circle is created when businesspeople start to share digital workflow innovations that they have helped create with other business people. Application data can be appropriately anonymised so that one use case can be used as reference architecture for another use case, perhaps in another company.

It is almost as if the open source community contribution model has stepped out of the techie's domain and become a common practice among the business function. In areas such as employee safety, wellbeing and inclusivity, this kind of free exchange of thought could make all the difference.

Low-code and no-code software can help evolve and improve all the software we use at every level, and that has to be an evolutionary step forward. ■

KEY TAKEAWAYS

- One of the new factors driving evolution is the emergence of low-code and no-code software.
- New platforms are being built to abstract away some of the algorithmic logic and compute functions.
- Users get more of what they want, and developers get fewer requests from the business function.

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ROBOTS WILL WORK ALONGSIDE NOT AWAY FROM HUMANS

Robots will be deployed to work within human teams to boost their efficiency in areas and roles, humans cannot operate, writes Scott Manson at McAfee.



SCOTT MANSON,
Managing Director, Middle East
and Turkey, McAfee.

You will lose your job to a robot — and sooner than you think, robots will destroy our jobs — and we are not ready for it. For each incremental advance in automation technology, it seems there is an accompanying piece of alarmist clickbait, warning of a future in which robots will be able to do everything we can, only better, cheaper, and for longer.

But while it is one thing to enjoy having a robot zipping across the floor, cleaning up after you, it is quite another to imagine automation coming to our workplace. For those of us in cybersecurity, however, it has become a foregone conclusion

— now that criminals have begun adopting automation and artificial intelligence as part of their attack strategies, it is become something of an arms race.

Businesses and individuals are racing to stay one step ahead of increasingly sophisticated bad actors that human analysts will no longer be able to fend off on their own.

According to the 2019 SANS Automation and Integration Survey, however, human-powered SecOps are not going away anytime soon. Automation does not appear to negatively affect staffing, the authors concluded, after surveying more than 200 cybersecurity professionals from companies of all sizes over a wide cross-section of industries.

What they found, in fact, suggested the opposite — companies with medium or greater levels of automation actually have higher staffing levels than companies with little automation. When asked directly about whether they anticipated job elimination due to automation, most of those surveyed said they felt there would be no change in staffing levels. Respondents do not appear concerned about automation taking away jobs, the paper concludes.

There are many reasons for this, but perhaps the most basic is that, in order to see any sort of loss in the number of cybersecurity jobs, we

would first need to get to parity — and we are currently about 3 million, short of that.

Phrased another way, automation could theoretically eliminate three million jobs before a single analyst has to contemplate a career change. That is an oversimplification, to be sure, but it is also one that presupposes artificial intelligence and automation will live up to all of its promises — and as we have seen with a number of revolutionary cybersecurity technologies, many fall short of the hype, at least in the early days.

Automation currently faces some fundamental shortcomings. First, it cannot deploy itself — experts are needed to tailor the solution to the business' needs and ensure it is set up and functioning correctly. And once they are in place, the systems cannot reliably cover all the security needs of an enterprise.

Due to a lack of human judgment, automated systems surface a great many false positives, and failing to put an analyst in charge of filtering and investigating these would create a huge burden on the IT staff responsible for remediation.

There is also the issue of false negatives. Artificial intelligence is great at spotting what it is programmed to spot; it is vastly more unreliable at catching threats it has not been specifically instructed to look for.

AUTOMATION, THEN, SHOULD BE THOUGHT OF AS A WAY NOT TO REPLACE SECOPS TEAMS, BUT RATHER TO COMPLEMENT AND COMPLETE THEM

Machine learning is beginning to overcome this hurdle, but the operative word here is still machine — when significant threats are surfaced, the artificial intelligence has no way of knowing what this means for the business it is working for, as it lacks both the context to fully realise what a threat means to its parent company, and the ability to take into consideration everything a person would.

Humans will still be needed at the helm to analyse risks and potential breaches, and make intuition-driven, business-critical decisions.

Then there are the things that can never be automated like hiring and training people; selecting vendors; any task that requires creativity or thinking outside the box; making presentations; eliciting buy-in from the board of directors and upper management and, of course, compliance.

No automated system, no matter how sophisticated, is going to know when new laws, company regulations, and rules are passed, and no system will be able to adjust to such changes without human intervention.

For the sake of argument, let us assume for a moment we could fully automate the SOC. While the loss of jobs is certainly a serious matter, we would soon find the stakes to be much higher than even that. Hackers have already demonstrated an ability to hack into automated systems.

If they were able to retrain your artificial intelligence to ignore critical threats, and there was no

human present to realise what was happening and respond swiftly and appropriately, sensitive data could be compromised enterprise-wide, or worse.

In short, automation will not eliminate the demand for human cybersecurity expertise, at least in the short- to medium-term. But it will certainly redefine roles. According to SANS, implementation of effective automation often requires an initial surge in staff to get the kinks worked out. But it is almost invariably accompanied by a redirection, not reduction, of the existing workforce.

Once in place, the automated systems will have two functions. By allowing analysts to shift their focus to more critical cybersecurity functions, improving efficiency, reducing incident response time, and reducing fatigue, they function as a tool for cybersecurity professionals to increase their effectiveness.

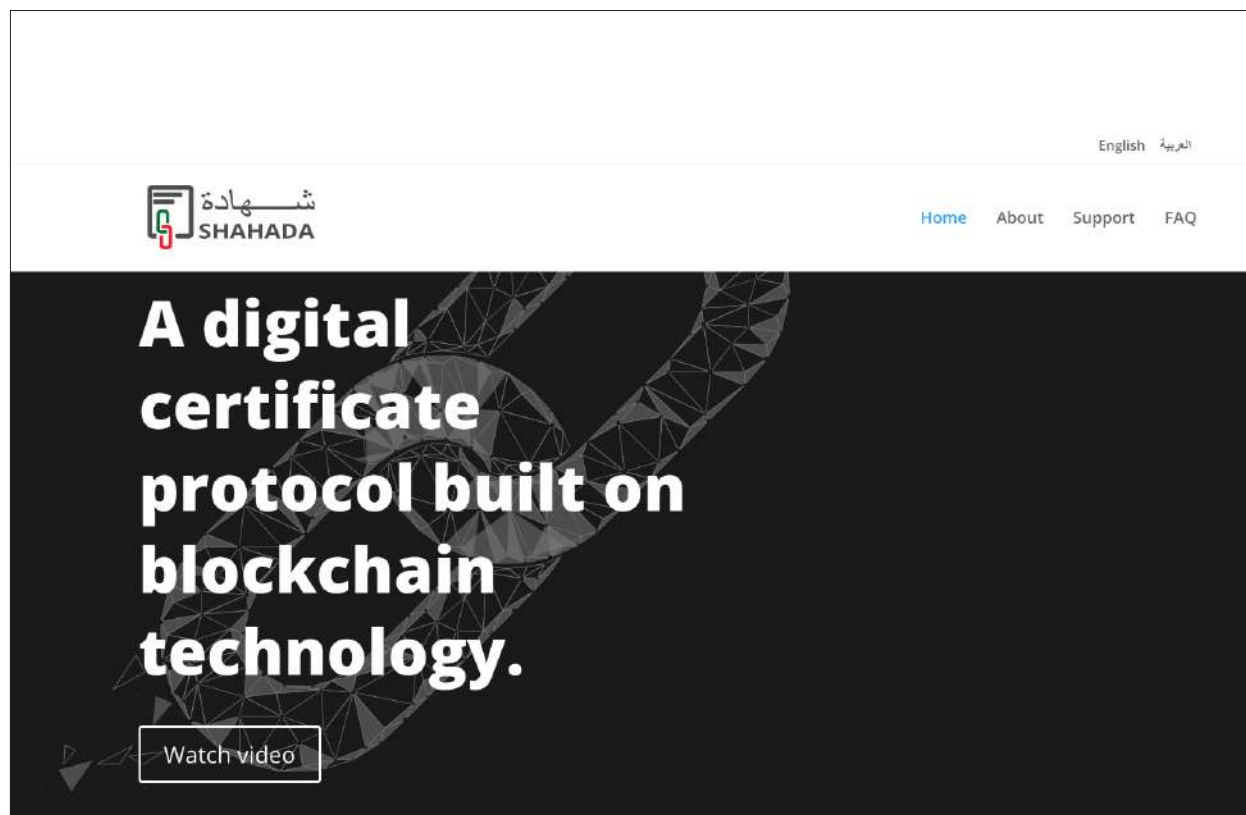
But their most valuable role may be as a partner. Automation may be powerful, but automation closely directed and honed by humans is more powerful. Rather than taking the place of humans, robots will take their place alongside humans.

Automation, then, should be thought of as a way not to replace SecOps teams, but rather to complement and complete them in a way that will allow them to handle both the monotonous and mundane — yet necessary — tasks in the SOC, and also attend to the true mission-critical tasks rapidly and without distraction. ■

KEY TAKEAWAYS

- Automation directed by humans is more powerful and rather than taking the place of humans, robots will take their place alongside humans.
- Hackers have already demonstrated an ability to hack into automated systems.
- No automated system is going to know when new laws, regulations, and rules are passed, without human intervention.

Smartworld and Grape Technology launch blockchain digital certificate protocol



Smartworld and Grape Technology have announced the launch of Shahada, which provides SaaS capabilities to securely create, maintain, share, and verify academic credentials via web platform and mobile application.

Shahada is in alignment with both the UAE blockchain strategy 2021 and the fifty-year charter (article 4) that were launched by Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, on April 2018 and January 2019 respectively.

Shahada creates a consolidated education profile for all UAE residents fully powered by blockchain technology to save time,

effort and resources as well as enhance happiness levels.

With the implementation of Shahada, educational institutions can issue credentials for all their students on blockchain. UAE Residents will have consolidated education profiles where they can maintain and verify their digital records. They can also share them with employers and other entities who can easily verify digitally their authenticity and identify fraudulent records. Shahada is also integrated with UAE Pass to identify the user; and grant user consent for sharing digitally.

Shahada eco-system brings together Education Institutions,

Government Entities and other stakeholders on a secure permissioned blockchain platform. Shahada empowers Ministries to play a regulatory role on the blockchain records, digitally attest and certify credentials issued inside and outside the UAE.

Shahada is built on a hybrid platform and compatible with the global open standards for publishing digital certificates on blockchain as implemented by MIT. In addition, it implements the best security practices in the industry, supporting advanced key storage, encryption and cryptography. ■

Saudi MoT to study hyperloop transport that promises speeds of 1,000 kmph



The Ministry of Transport, MoT, in Saudi Arabia has announced a contract agreement with Virgin Hyperloop One, VHO. Under the partnership, VHO will conduct ground-breaking pre-feasibility study on the use of hyperloop technology for the transport of passengers and cargo, laying the groundwork for a network of hyperloop routes to be considered across Saudi Arabia.

The study is the first at a national level to be carried out anywhere in the world and will examine viable routes, expected demand, anticipated costs and explore the socio-economic benefits of creating jobs and develop high-tech skills.

The study, which will serve as

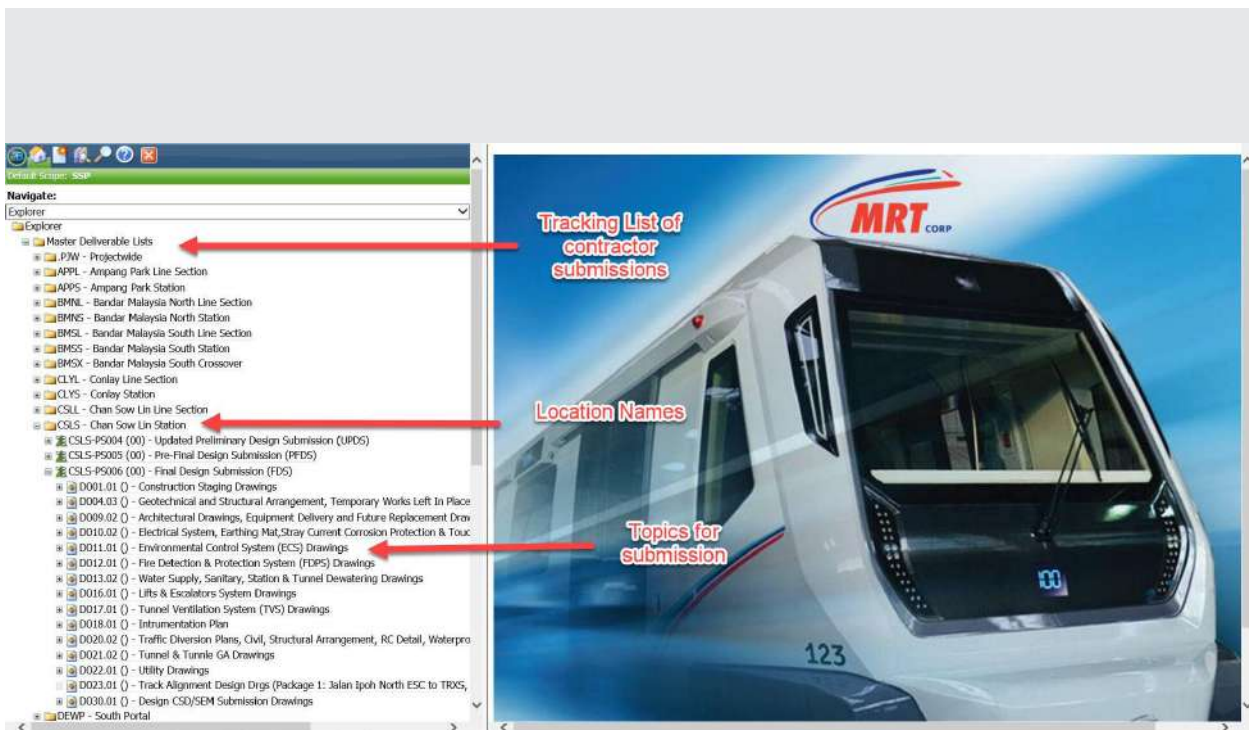
a blueprint for future hyperloop projects, builds on the developers long-standing relationship with Saudi Arabia, which peaked when His Royal Highness Prince Mohammed bin Salman Abdulaziz Al Saud, Crown Prince of Saudi Arabia, viewed VHO's passenger pod during a visit to the United States. The announcement is the latest in a series of existing partnership in Saudi Arabia that include MiSK Foundation, the Economic Cities Authority, as well as King Abdullah University of Science and Technology.

Building on Saudi Arabia's commitment to be a leader in the adoption and implementation of hyperloop technology, the

agreement forms the foundation for creating ground-breaking transportation infrastructure that will transform Saudi Arabia's economy, enable the creation of jobs, and develop of high-tech talent.

Having already attracted major investors from the UAE, including VHO's main investor, DP World, as well as others such as Abu Dhabi Capital Group, a hyperloop system would see passengers travel at speeds exceeding 1,000kmh, cutting the travel time from the capital to Jeddah to 46 minutes. Similarly, a journey from Riyadh to Qiddiyah would take only 5 minutes. While a trip from Jeddah to Neom could be completed in 40 minutes, and from Riyadh to Abu Dhabi in only 48 minutes. ■

Bentley Systems applications help Malaysia's MRT optimise workflows on SSP Line



Mass Rapid Transit Corporation, MRT, developer of Malaysia's largest transit project, successfully opened its Sungai Buloh-Kajang, SBK, Line in the Greater Klang Valley Region of Kuala Lumpur in 2017. Keen to leverage the wealth of experience that MRT gained on that project, the team focused its efforts on improving time and cost certainty through the adoption of multidiscipline BIM workflows on the Sungai Buloh-Serdang-Putrajaya, SSP, Line, its second of three lines.

Moreover, having identified a number of challenges in construction management and handover of digital as-built information to operations, MRT decided to advance its BIM

workflows through the adoption of digital twins using Bentley solutions. By going digital, MRT can create and visualise its digital assets, as well as check their status, perform analyses, and leverage insight gained to predict and optimise the organisation's performance.

MRT's Asset Information Management, AIM, system maintains a list of documents, asset tags, and equipment, along with the maintenance class and frequency, manufacturer's name, and contact details. To manage its data, MRT created a custom classification system, the KVMRT Classification System, using AssetWise in its cloud-based connected data environment, CDE. By establishing a

Master Asset Register, MAR, the system can be used to capture all the pertinent information related to assets and equipment, which will be used by the operations and maintenance teams throughout the operational life of the railway.

Asset data contributed to the digital twin during design, procurement, and commissioning remains available at every phase of the lifecycle, thereby easing discovery and access to information. Maintaining comprehensive information on the assets throughout project delivery minimises the amount of human interaction needed during asset handover to operations. ■



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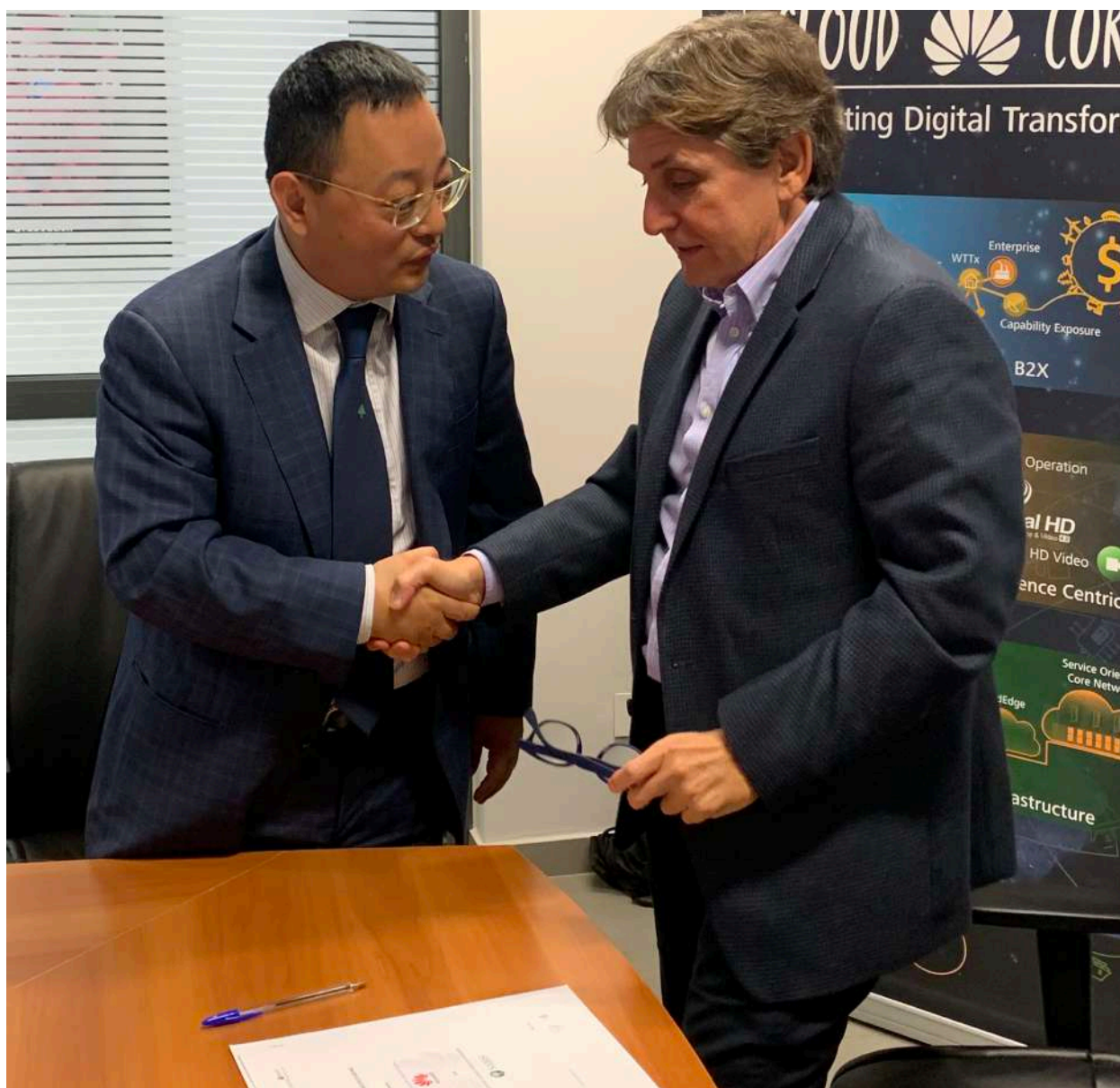
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SABIS to use Huawei's Wi-Fi 6 solutions to upgrade IT infrastructure at schools



Huawei, a global provider of information and communications technology infrastructure and smart devices, has entered into a strategic alliance with SABIS, a global education management organisation, which will use Huawei's technology to uplift their IT infrastructure on the school and the corporate level.

The alliance, which is set to last for two years, will cover all SABIS Network schools located in the Gulf, Levant, Africa, Kurdistan, and Europe regions. SABIS school campuses will become even more digitally-driven, connecting their cutting-edge SABIS educational software systems using Huawei's state of the art Wi-Fi 6 technology.

With Huawei's unique 5G-powered antenna and algorithm technologies, Huawei's Wi-Fi 6 helps enterprises build networks without coverage holes, provide services with no waiting time, and achieve no packet loss during roaming. This allows various sectors, including digital education, to move toward a fully connected, intelligent world. ■

Petrofac selects Microsoft Azure IoT toolkit to build Construction platform



Microsoft has announced that international energy service provider Petrofac has chosen Azure's Internet of Things for its Connected Construction platform designed to accelerate digital transformation at its project worksites.

In conjunction with Accenture Industry X.o, Petrofac developed Connected Construction on Azure and combined it with Azure IoT Edge analytics and PaaS cloud components to create a scalable ecosystem capable of accommodating many different types and sizes of project.

Azure's IoT platform allows innovators to build rich, visual

Internet of Things applications that connect, manage, and monitor devices securely and at scale. With the options to run SaaS or PaaS deployment models, solutions builders can deliver real edge intelligence to field operatives that allows better, data-driven decisions through machine learning and advanced analytics.

Azure IoT Edge moves cloud analytics and custom business logic to devices for organisations that prioritise business insights over data management, allowing them to scale out solutions by packaging heuristics into standard containers, deploying them to edge devices and monitoring everything from the

cloud.

Following a significant surge in the demand for its cloud services in the region, Microsoft earlier this year launched its secure, flexible and intelligent cloud to regional customers through two dedicated cloud data centres, one in Dubai and one in Abu Dhabi. These facilities will cater specifically to enterprises in the Middle East.

Organisations in the region's energy sector can make the most out of the Microsoft Cloud by availing themselves of enterprise-grade reliability and performance, combined with data residency and the broadest compliance. ■

IFS partners with Oman ICT Group to develop ICT sector and accelerate Omanisation



IFS, a global enterprise applications company, has announced the signing of a new agreement with Oman ICT Group. The partnership will help the Oman ICT Group achieve its key strategic objectives of developing the ICT sector for national advancement and includes Omanisation. It creates the path and provides a competitive IFS ERP solution into the Oman market while upskilling Omani consultants. Customers in Oman will now have a choice of an easy to deploy solution either on premise or in the Cloud and benefit from a low total cost of ownership.

The Oman ICT Group is mandated to create synergies between various

operating companies, and is aligned with the National ICT Strategy to provide the necessary technology inputs whenever and wherever required. The partnership with IFS is focused on bridging the gap between the way business is done and technology, while preparing for the changes that are taking place within the world of digital transformation.

What is important is that IFS is able to provide flexible and tailor-made solutions across a wide range of sectors including, Aerospace and Defence, Energy, Utility and Resources, Engineering, Construction and Infrastructure, Manufacturing and Service

industries. This covers some of the most vital sectors in Oman.

Oman ICT Group will provide IFS implementation and Managed Services for the entire IFS product suite and will also maintain and manage all IFS customers in Oman. To support this, IFS will enable them in the pre-sales, sales and implementation services. Both partners are keen to add value to the customers and provide unparalleled best-of-breed products, services and solutions, thereby helping to them to transform their organisation, processes and systems. ■

Jordan's MoDEE migrates to Nutanix cloud, accelerates country's transformation



HE MOTHANNA GHARAIBEH,
Jordan's Minister of Digital Economy and Entrepreneurship.

Nutanix has announced that Jordan's Ministry of Digital Economy and Entrepreneurship, MoDEE, has successfully completed its migration to the Nutanix enterprise cloud software as part of its ongoing efforts to accelerate digital transformation across Jordan.

MoDEE's mandate is to deliver

and maintain the Government of Jordan's digital transformation apparatus for all the country's public entities, facilitating the delivery of end-user services to citizens and businesses. Like many countries in the Middle East, Jordan is making strides in digital technology usage as a means to invigorate the economy, promote

entrepreneurship and innovation, and create jobs.

MoDEE is also responsible for hosting ICT services for all of Jordan's government entities. Previously, the ministry used a managed-service model to deliver ICT facilities from its own data centre, through its own servers and storage devices. However, in trying to support a nation with economic growth ambitions rooted in digital prowess, MoDEE found the legacy setup limiting.

MoDEE's new control comes from Nutanix's one-click infrastructure management console Prism that allows admins to seamlessly and easily monitor all virtual environments running on AOS. The dashboard is designed to simplify and streamline common workflows, and to make hypervisor and VM management as easy as checking email.

The Nutanix enterprise cloud software has also helped MoDEE increase capacity for handling large volumes of digital traffic, thereby streamlining services across e-government branches. The Nutanix enterprise cloud software will form the foundation of future expansions, Khamees explained, adding that a planned centralisation of applications and e-services was in the works for MoDEE's private cloud.

After migrating to Nutanix enterprise cloud software the ministry noticed an appreciable difference in performance and capacity. One government agency that was able to handle approximately 1,000 concurrent users on the legacy infrastructure can now accommodate approximately 3,000. ■

HOW INTELLIGENT AUTOMATION IS IMPACTING BUSINESS AND USE CASES

Top executives explore how artificial intelligence and automation are being embedded in technologies and their impact on productivity and workforce.



(Left to right and top to bottom) • Alaa Elshimy, MD and Senior Vice President, Huawei Enterprise Business Group, Middle East • Abdallah Saqqa, Head of Customer Experience, SAP Middle East North • Abed Hamandi, Regional Director Professional Services Middle East and Africa, SAS • Anas A Abdul-Haiy, Director and Deputy CEO, Proven Consult • Alain Penel, Regional Vice President, Middle East, Fortinet • Azz-Eddine Mansouri, General Manager Sales, Ciena Middle East • Dr Hari Prasad, President, Apollo Hospitals Group • Dr Mukesh Batra, Founder, Dr Batra's Group of Companies • Milan Sheth, Executive Vice President for India, Middle East and Africa East Region at Automation Anywhere • Patrick Smith, Field CTO, EMEA at Pure Storage • Thierry Nicault, Regional Vice-President for Enterprise Business Unit, Middle East Africa and Central Europe, Salesforce • Ahmed Khashan, Cluster President Gulf Countries, Schneider Electric.



ABDALLAH SAQQA,
Head of Customer Experience,
SAP Middle East North.

Identify what AI and ML can do for your business

Organisations need to clearly establish what AI and ML can do for their business and then work with specialised partners to achieve these goals.

The Middle East is seeing strong interest in artificial intelligence and automation, with increasingly sophisticated algorithms solving business challenges across a wide range of industry verticals. Middle East IT decision-makers agree that cloud is important for integrating artificial intelligence, machine learning, Internet of Things, and blockchain, including 83% in KSA and 76% in the UAE, according to a recent YouGov survey.

Currently, more than 70% of digital leaders in the Middle East and North Africa are investing in artificial intelligence and machine learning, making it among the top three most heavily-invested technologies over the past year, according to the SAP and Oxford Economics Digital Transformation Executive Study.

Middle East organisations need senior management to understand what artificial intelligence and machine learning can and cannot do,

then integrate artificial intelligence and machine learning into wider data strategies and digital transformation strategies. Organisations need a digital core to ingest and analyse the increasing variety, velocity, volume, and veracity of data.

Middle East organisations that want to deploy artificial intelligence should first work with specialised and authorised channel partners to identify the business cases. Many organisations do need to modernise their IT infrastructure to run in real-time, and train staff to optimise artificial intelligence. Not everyone needs to be a data scientist, but increasingly employees do need data science skills.

Use case include:

GOVERNMENT

Artificial intelligence can help to predict tax revenue and identify irregularities, send automated alerts about natural disasters, and better identify neighbourhood needs.

SMART CITIES

Artificial intelligence apps can help to reduce traffic congestion by adjusting signals, support sustainability and recycling with sensors on waste bins, and analyse CCTV footage to help deter and solve crimes.

OIL, AND GAS

In digital oilfields, artificial intelligence at the wellheads can provide recommendations on how to optimise management and to predict maintenance of assets.

UTILITIES

Electricity and water providers can use artificial intelligence for real-time insights on smart grid distribution, manage usage peaks, and enable e-payment of bills.

Products include:

SAP S4HANA

Every line of business can benefit, from predictive maintenance and automated receipt recognition, to future budgeting and inventory management.

SAP CUSTOMER EXPERIENCE

With 96% of GCC organisations ranking customer experience as a 2020 business priority, artificial intelligence is transforming customer experiences. Examples include conversational artificial intelligence chatbots, retail leveraging voice-activated artificial intelligence systems, and emotional artificial intelligence to enhance customer experiences.

SAP SUCCESSFACTORS

Artificial intelligence can address recruiting bias across job postings, applications, and screening, and bots and conversational interfaces can answer routine questions.

SAP LEONARDO

The digital innovation system integrates artificial intelligence and machine learning, IoT, and blockchain on an open cloud platform to transform processes and business models to deliver business outcomes. ■



ABED HAMANDI,
Regional Director, Professional Services Middle
East and Africa, SAS.

Forecasting and optimisation tools most ubiquitous

Forecasting and optimisation workflows enable large-scale automation for predicting outcomes and optimising decisions.

SAS has long been a supporter of digital transformation through automation and artificial intelligence and features the latest data-driven technologies to augment human creativity and business endeavors. SAS's service model is centered on enhancing human ingenuity through the concept of machine learning, a process that finds insights hidden in data without explicitly being told where to look or what to conclude.

This approach has been the fulcrum of SAS philosophy as the vendor believes that artificial intelligence promises growth opportunities and makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks.

Repetitive and physically strenuous tasks have been outsourced to artificial intelligence powered machinery. Automation has also seen a precedent, where tasks

that would conventionally require human intelligence and cognitive abilities have also been employed by increasingly-complex systems of artificial intelligence and machine learning products.

Business with strong digital transformation initiatives have reaped the benefits of this as they can now redirect these resources to their employees and business planning as well as gain a competitive edge in the market.

Advancements in automation and artificial intelligence have ushered in a new era of business planning and structuring. Every facet of a business model has been transformed as automation has been able to match and even exceed human performance across a multitude of business practices.

But these technologies are still being underutilised by business owners and decision makers and that is mainly because digital

transformation requires a complete organisational shift as well as consistent staff onboarding processes.

The biggest challenge against adoption of technology is ensuring the organisation is ready to shift towards a tech-focused culture. Another obstacle is that the organisation must accept the challenges of upskilling or reskilling their employees to adhere to new tech-driven processes.

SAS products are effectively utilised in dozens of industries from Banking, Telco, Capital Markets, and National Security and Defense to Casinos, Retail, Utilities and Energy, Hotels and Transport Authorities.

The most ubiquitous of SAS tech services is the Forecasting and Optimisation programme which predicts future outcomes given resource constraints. SAS supports all stages of forecasting and optimisation workflows, enabling large-scale automation for predicting outcomes and optimising decisions.

SAS product offerings include intuitive machine learning tools with automated feature engineering capabilities, resulting in better recommendations for faster, smarter decision making. SAS products are equipped with Natural Language Processing technologies which enable understanding, interaction and communication between humans and machines, utilising the technology to automatically extract critical business insights and emerging trends from large amounts of structured and unstructured content.

Computer Vision is another feature that analyses and interprets what is in a picture or video. SAS artificial intelligence solutions use computer vision to accelerate intelligent automation with simple tools for image processing, image recognition and object detection. ■



ALAA ELSHIMY,
Managing Director and Senior Vice President,
Huawei Enterprise Business Group, Middle East.

Poised to integrate 5G and AI in same solution

The Atlas family of servers and processors is boosting usage of AI technologies across use cases and allows global developers to build applications.

Artificial intelligence is on the verge of transforming industries and organisations across the Middle East. Huawei is committed to helping customers and partners make the most of the technology's potential to unlock innovation and economic growth. That transformation will be facilitated by Huawei's next-generation intelligent product strategy and new artificial intelligence products for the enterprise market.

By adding artificial intelligence capabilities to the next-generation of ICT products—from Wi-Fi 6 to All-Flash Storage—Huawei are helping organisations to address a new round of digital transformation challenges to achieve business success.

To that end, Huawei has its own artificial intelligence strategy that focuses on four key areas. Huawei will push the boundaries of architecture, invest in processors

for all scenarios, keep clear business boundaries, and build an open ecosystem. Having a full-stack, all-scenario artificial intelligence portfolio is particularly relevant to customers today, as Huawei offer solutions covering chips, chip enablement, training and inference framework, and application enablement.

In 2019, for example, Huawei unveiled its latest Atlas series of products and 43 cloud services based on Ascend processors with powerful computing capabilities. The Atlas 900 artificial intelligence cluster, Atlas 300 artificial intelligence training card, and Atlas 800 artificial intelligence training server are among the products to have computing power across the globe. Customers can now benefit from more abundant, economical, and adaptive artificial intelligence algorithms for all scenarios.

The Atlas family is oriented

to artificial intelligence infrastructures in all scenarios, including the device, edge, and cloud. It can be widely used in smart cities and is already supporting customers in financial, energy, transport, and other industries. With Huawei's enterprise-class knowledge graph, for example, petroleum industry experts use multi-source knowledge convergence technologies to become over 70% more efficient.

Huawei estimates that in the next five years, statistical computing will become the mainstream and artificial intelligence computing will account for more than 80% of all computing power used around the world. But before that can become a reality, building an open artificial intelligence ecosystem will be essential.

And, in the next five years, Huawei will invest another \$1.5 billion in its own developer programme. The aim is to expand the programme to support five million developers and enable Huawei's worldwide partners to develop the next generation of intelligent applications and solutions.

Huawei is unique in its ability to integrate artificial intelligence and 5G technologies to scale digital services to more people, homes, and organisations than ever before. As more artificial intelligence-driven applications are used in smart manufacturing, telemedicine, banking, and more, it poses higher requirements for connectivity, which 5G is perfectly able to match.

Abundant, high-performance, diversified, greener and inclusive computing power will drive the development of an intelligent society. The goal is to innovate to customer demand and provide computing power for ubiquitous cloud and pervasive intelligence. ■



ALAIN PENEL,
Regional Vice President Middle East,
Fortinet

Alert fatigue, lack of integration, driving AI usage

AI programmes can monitor normal and anomalous behavior across a wide surface, reducing incidence of false positives and user fatigue in organisations.

As the volume, velocity, and sophistication of today's threat landscape continues to expand, adding artificial intelligence to a security strategy has become paramount to establishing and maintaining an effective security posture. Network security teams need the assistance of machine learning and other AI-based capabilities in order to detect, secure, and mitigate modern attacks.

The FortiGuard Labs proprietary, Self-Evolving Detection System, in development and training for more than six years, has proven successful in detection effectiveness, even with zero-day malware. This mature machine learning and artificial intelligence programme features a continuous training model to autonomously collect, analyse, and classify threats. Then it develops new and effective defensive

signatures that are distributed across the connected Fortinet Security Fabric in real time.

Time and data both contribute to the success of the programme. Each day FortiGuard Labs ingests and analyses more than 100 billion security events, giving us an unprecedented view of the end-to-end global threat landscape. This rich data allows the vendor to send an ongoing dataset of tens of millions of fresh files to the SEDS system that then utilises supervised, unsupervised, and reinforcement learning models.

Artificial intelligence and machine learning programme integrate into Fortinet's threat intelligence back end to power all threat detection capabilities that FortiGuard services share across the Fortinet Security Fabric. This integration across Fortinet products, combined with

use of automation and innovation, helps customers fight increasingly aggressive and damaging nature of cybercrime.

Because organisations cannot detect and respond to threats manually, they can use artificial intelligence and automation to fill these gaps. Solutions enabled by artificial intelligence can learn what normal behavior looks like in order to detect anomalous behavior.

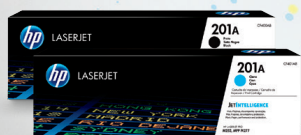
As a result of digital transformation, networks are becoming increasingly complex and distributed. Many organisations have deployed multi-cloud environments, hybrid environments, BYOD policies, SaaS apps, connected devices, and more. artificial intelligence and automation simplify network management across these environments – alerting security teams to imminent threats and responding automatically.

By leveraging solutions that incorporate artificial intelligence and automation, organisations can close the resource gap and stay a step ahead of cyber criminals.

Organisations are not the only ones adopting artificial intelligence and automation – cyber criminals are too. Attacks now move at machine speed, using artificial intelligence and automation to actively locate and exploit multiple vulnerabilities while evading detection. Without the need for manual input, these attacks can be far more prolific, and faster.

Furthermore, most organisations are deploying multiple disparate security tools across their distributed environments. The lack of integration here means that security teams are getting alerts to possible security events from a multitude of devices – which can cause alert fatigue and events to slip by unaddressed for longer periods of time. ■

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AZZ-EDDINE MANSOURI,
General Manager Sales, Ciena
Middle East.

Self adapting networks critical to escape complexity

With increasing complexing and demanding user experiences, ability to dynamically adapt is crucial for maintaining and improving quality of service.

Blue Planet, a division of Ciena, harnesses the power of automation and artificial intelligence to help providers not only predict but to also proactively avoid outages. Blue Planet's Proactive Network Operations solution enables AI-assisted operations to significantly improve the trouble-to-resolve process, forging a path toward a more adaptive network.

As more service providers are realising that artificial intelligence is key to facilitating a more automated way of running their business, Ciena's solutions aim to enable customers to apply intelligent, closed-loop automation to all aspects of their operations with the goal of realising the vision of a fully adaptive and self-healing network.

An Adaptive Network leverages artificial intelligence, machine

learning and software analytics to examine the many data points being generated at any given time so that the network can react to end user demands or to a predicted network failure and adjust without human interaction.

The UAE and Saudi Arabia are two of the leading countries in artificial intelligence investment. According to Gartner, UAE is one of the countries where artificial intelligence will have a bigger impact with an approximate 14% of 2030 GDP. This is followed by Saudi Arabia where artificial intelligence's contribution is forecasted to be 12.4% of GDP.

Currently, vendors in networking domains are augmenting traditional analytics with automation and artificial intelligence technologies to enable the next generation of highly intelligent networks. These networks – also known as adaptive networks

– are capable of dynamically self-configuring and optimising based on changing network conditions.

As networks become increasingly complex and intertwined with resource-intensive user experiences, ever-present devices and critical applications, the ability to dynamically adapt is crucial for maintaining and improving quality of service.

Network complexity has led to the formation of underutilised, over-engineered networks where instead of the smooth, automated service rollout we see many manual processes. To improve profitability, service providers need to keep in mind the importance of tapping into the power of artificial intelligence and automation to increase operational efficiency and reduce both CapEx and OpEx by enabling networks to self-optimize, self-heal and deliver optimal user experiences.

It will be critical for service providers to utilise new solutions that provide proactive methods for addressing potential service disruptions. One such example is Blue Planet's Proactive Network Operations solution that uses advanced machine learning algorithms to pinpoint potential issues before they occur and instruct the network the best course of action to take to resolve.

Unified Assurance Analytic UAA enables AI-powered analytics applications, supporting multiple network layers, domains and vendor equipment to facilitate data collection to provide the deepest levels of actionable network insights. As a result, UAA is a key solution to help service providers realise the vision of an intelligent, self-optimising network described earlier as an Adaptive Network, which they need to meet customer expectations in a world of skyrocketing demand. ■



DR HARI PRASAD,
President, Apollo Hospitals Group.

Preventive cure for employees using AI and analytics

Continuous medical monitoring of an employee over three years helps to build their predictive health model using ProHealth from Apollo.

It has been observed that 80% of deaths in most countries occur through non-communicable diseases. In an endeavor to combat this threat, Apollo Hospitals has introduced a first of its kind preventive health management programme powered by personalised Health Risk assessment and enabled by artificial intelligence called ProHealth.

This is a three-year programme that empowers individuals and corporate with health analytics to predict and work towards preventing health risks for a healthier lifestyle.

This programme empowers individuals and corporate with health analytics to predict, prevent and overcome lifestyle diseases for a healthier living.

While the programme has been launched, Apollo Hospitals is looking at collaborating with international partners to help fight the burden of non-communicable diseases globally

and reduce the overall expenditure on healthcare.

As the first proactive preventive health management program, ProHealth has been developed based on the experience of over 20 million health checks conducted at the Apollo network of hospitals. The database is huge and has not been done by any other institution across the globe. With health being monitored by a health mentor and risks being controlled at every stage of the programme through lifestyle modifications in diet, exercise and other elements, we expect to have a positive outcome within three years.

Currently, the programme is being used for 50,000 employees at Apollo Hospitals and nearly 10,000 patients are on it. A total of 60,000 individuals are using it currently, with numbers to double soon.

ProHealth can be used once an individual enrolls with the service, which is provided by the

hospitals. An Individual can book an appointment for a health check with Apollo or a partnered hospital. Once completed, the tests results are integrated with the Apollo ProHealth System. The system uses the AI analytics and predicts health concerns.

A health mentor is assigned that guides and provides care before and after the health checks which includes but is not limited to appointments, home sample collections, telemedicine consultations, personalised health tips, others.

The continuous care is a critical feature of this program. The patient then approaches the physicians with personalised reports and is given recommendations in terms of clinical or lifestyle interventions. The programme also alerts individual on noncompliance or abnormal values.

On the end of third year, the individual is provided with trend analytics and progress report on the impact of this programme. Having said this, the programme will be customised depending on the geographical region and its regulatory environment. The ultimate aim is for the individual to have a healthy and happy living.

The launch of this programme has been well accepted well and Apollo Group is looking forward to tie ups with hospitals in GCC for this programme in 2020.

KEY INSIGHTS

- ProHealth has been developed based on the experience of over 20 million health checks conducted at Apollo hospitals.
- The database is huge and has not been done by any other institution across the globe.
- With health being mentored and risks being controlled, a positive outcome is expected within three years.



DR MUKESH BATRA,
Founder, Dr Batra's Group of
Companies.

Predicting illness based on genes and data analytics

By saving medication data for years and applying predictive tools, patients can be effectively managed to receive the most suitable medication.

The genes of every person are just as unique as fingerprints or the iris and this can be used for medical treatment tagging. Dr Batra's Geno Homeopathy is designed where no two patients, even having the same medical condition, will be given the same homeopathic treatment. The homeopathic medicines are both natural and effective, based on a patient's genetic make-up, and are individualised according to the age, health and lifestyle.

The genetic test for Dr Batra's Geno Homeopathy consists of a simple saliva test that can assess the severity of a medical problem even years before the disease appears. The results of which are available for the patient within weeks. In general, genetic tests use up to 7 markers. However, Dr Batra's medical experts in conjunction with specialists in

genomics have designed a genetic test which includes an extensive list of 15 markers per test.

These markers are comprehensive and customised as per individual ailments, and comprise of all related problems to the main condition or complaint including primary and secondary problems. They indicate the gravity of the illness and give an in-depth analysis of the condition. The genetic test also provides patients with a lifestyle chart that incorporates dietary and exercise programs to compliment the treatment plan.

At Dr Batra's the data is stored at the back end in a structured manner in the form of a Relational Database Management system. A web-based application is then used to access the data across the clinics located in 5 countries including India, UK, Bahrain, Bangladesh and the UAE.

A series of structured questions are asked during the patient and doctor interaction. These questions vary from ailment to ailment.

Based on data required to treat the ailment, different sets of questions are posed. Within each ailment, the questions are tagged to different sequential structures that then provide a summary for analysis. The questions and answers are stored in a structured manner where the data analysis can be done obtained easily.

At Dr Batra's we do not employ an external statistical tool. The clinic has adopted an internal intermediate server, process, logics, that formats and stores the data for analysis. Different data sets have been built on the basis of the insight and analysis requirement.

The team is able to obtain a 360° view of the clinic, doctor or patient as is required. Individual ailments and prescriptions can be separately analysed. The prescription which are most effective in similar cases are grouped together and recommended to the doctors.

The same approach can be used for communicable diseases by modeling their symptomatic behavior that is best addressed by homeopathic medication. A predictive module is in place that throws up data based on the data similarity.

The Predict engine is in place to suggest suitable medical approach. Any person that is marked as treated in the system, the Predict engine will look for similar cases and suggest suitable medical approach. ■

KEY INSIGHTS

- The genes of every person are as unique as fingerprints or iris and this can be used for medical tagging.
- No two patients, even having same medical condition, will be given same homeopathic treatment.
- Different data sets have been built on the basis of insight and analysis requirement.

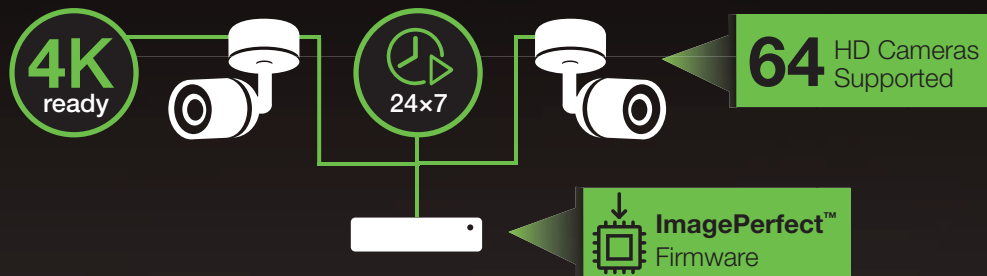


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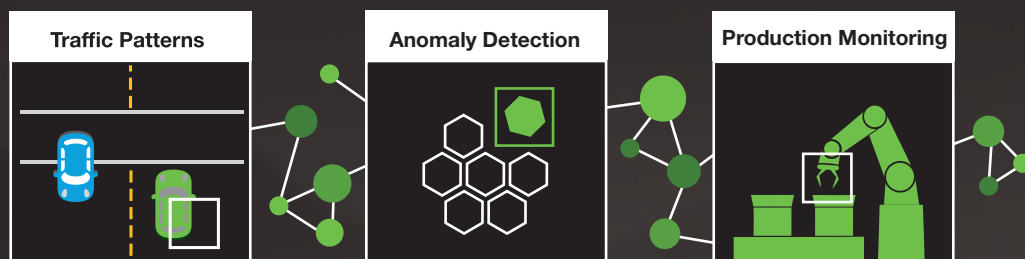
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MILAN SHETH,
Executive Vice President India, Middle East and
Africa East, Automation Anywhere.

Arrival of innovative intelligent automation

By combining robotic process automation and artificial intelligence, end users can benefit from continuous improvement across people and work.

Artificial intelligence and Robotic Process Automation have a lot in common. And in the past, they have been relegated to silos within organisations, requiring highly skilled, yet rare, practitioners to successfully deploy them.

However, the introduction of Automation Anywhere Enterprise A2019 in 2019 eliminates that separation, capitalising on the trend toward intelligent automation, the integration of artificial intelligence, machine learning, and robotic process automation together.

The vendor's flagship product A2019, a web-based, cloud-native digital workforce platform, provides intelligent automation by harnessing and integrating artificial intelligence and robotic process automation technologies, producing intelligent automation.

Intelligent automation expands the possibilities of business process automation to include nearly any

scenario, cognitive bots can reason and make decisions, learning on the job to become valuable resources in the human-digital workforce.

But the transformative potential of intelligent automation is that it creates the opportunity to reimagine how businesses operate by seamlessly integrating technology, work processes, and people.

Further to that integration, intelligent automation strengthens the capabilities of business process automation by an order of magnitude. It combines the task execution of robotic process automation with the machine learning and analysis capabilities of automatic process discovery and process analytics as well as cognitive technologies, like computer vision, Natural Language Processing, and fuzzy logic.

In addition, the best part about A2019 is that it can apply intelligent automation in any industry, whether

Business Process Outsourcing companies that specialise in providing outsourcing services for business process management, or any business specialising in either financial services, healthcare, insurance, life sciences, manufacturing, telecommunications or even governments in the public sector.

The vendors solutions include IQ Bot, Bot Insight and Bot Store leveraging key data and robotic process automation analytics. For example, with Bot Insight, companies' software robots are not just working tirelessly to get things done, they now have a story to tell through the data of the company that they gather and analyse through cognitive automation.

The vendor's new product, Automation Anywhere Discovery Bot, a new intelligent, automatic process discovery technology – built on top of cloud-native intelligent automation platform – leverages years of investment in robotic process automation, artificial intelligence and machine learning to increase the pace of process discovery and automation.

As a zero-client solution, it can be easily deployed across the enterprise and allows business users, IT and developers to collaborate via the same web-based interface and reduce the time spent understanding business process workflows.

The vendor focusses on automating business processes for customers. Every business process is a candidate for automation with intelligent automation. Companies can save time and money by reducing human interaction, increasing processing speed, and regularising outputs.

Some of these use cases include: automating business process, end to end; reducing operational obstacles; organising and processing complex data; eliminating errors and exceptions; strengthening cybersecurity; ensuring compliance; enhancing customer experience; and liberating employees. ■



PATRICK SMITH,
Field CTO EMEA, Pure Storage.

Perfect storm of compute, data sets, algorithms

AI and ML have been through several false dawns, but with compute, algorithms, massive data sets, there is a feeling they are here to stay.

Particularly in the digital era, where organisations have access to volumes of data, there is a growing realisation that for enterprises to remain competitive, progressing an artificial intelligence and machine learning agenda — and using it to draw insight from the data — is not an option but rather a business imperative. Failing to do so would mean falling behind the competition and consequently being at a significant disadvantage in the market.

The potential of artificial intelligence and machine learning is being unleashed by the combination of access to compute power, never previously possible through GPU technology, continually advancing algorithms and most importantly access to data at a volume and velocity that is absolutely staggering.

What we find is that many artificial intelligence and machine learning proof of concept initiatives

start in the public cloud, benefiting from a low financial commitment and a fast time to deploy. But as the value is proven and the environment needs to scale, we see many organisations moving the workload on-premises where costs can be controlled and the environment optimised.

The applications for artificial intelligence and machine learning are broad and we are seeing use-cases in just about every industry from insurance and telcos to finance and on to utility providers. But perhaps the most impactful area is healthcare.

The ability to provide more accurate, faster and scalable medical diagnoses through the power of artificial intelligence and machine learning changes the entire dynamic in a world which is facing increasing pressure to deliver better patient outcomes, faster and at lower costs.

Artificial intelligence and machine

learning have been through several false dawns. That being said, because of the coming together of compute, algorithms and massive data sets, there is now a feeling that artificial intelligence and machine learning is here to stay.

Taking AI from concept to actual production is based on several key aspects — having access to large high-quality data sets that have the potential to provide insights demanded by the business, a technology platform that provides exceptional performance, is easy to set up, deploy and manage and finally people with the required skills in data science to own and deliver the desired business outcome.

What will also be crucial in the evolution of artificial intelligence and machine learning will be public perception and the potential for governance. The ethics associated with artificial intelligence and machine learning is a growing conversation and one that needs to be had.

At Pure Storage, the focus is on building solutions that deliver the modern data experience and enable businesses to accelerate adoption of artificial intelligence and machine learning. With Pure Storage, customers can deploy a reference architecture consisting of compute, networking and the data platform together with a curated set of software. ■

KEY INSIGHTS

- Artificial intelligence and machine learning have been through several false dawns.
- With compute, algorithms, data sets, there is a feeling that artificial intelligence, machine learning are here to stay.
- Crucial in the evolution of artificial intelligence and machine learning will be public perception and potential for governance.



THIERRY NICAULT,
Regional Vice-President for Enterprise Business Unit,
Middle East, Africa, and Central Europe, Salesforce.

How to use AI to boost sales and customer experience

On the positive side, AI and analytics guide businesses on how to improve sales and customer experience and are not meant to impact workforce size.

Artificial intelligence is making a major leap from theory to practice, including virtual personal assistants, voice recognition software, and self-driving cars. At the foundation of artificial intelligence is machine learning, which teaches a machine how to assimilate information incrementally rather than pre-programmed from the start.

One of the best examples is in retail. For example, AI-powered search and product recommendations drove additional revenue for retailers during the 2019 winter holiday season, as 10% of digital orders and 5% of digital revenue came from AI-powered recommendations, according to the vendor's 2019 Holiday Shopping Report.

As the Middle East continues to build mega-malls and connect shoppers, artificial intelligence

is set to make a major impact in personalising marketing and retail experiences. For example, the recent State of the Connected Customer survey shows that 64% of customers worldwide expect organisations to tailor their customer engagement based on previous interactions, and in turn, 62% of customers expect companies to adapt their personalisation.

Banks can analyse data points to detect fraud, and call centers can deploy chatbots to improve customer interactions. Additional common use cases are personalising shopping experiences, analysing social media sentiment, or enhancing supply chains. Meaningful metrics such as conversion rates, qualified leads, and customer lifetime value can demonstrate how artificial intelligence can optimise costs and revenue.

Financial services professionals

now have predictive guidance and recommended actions built directly into day-to-day client engagement. Pre-built industry-specific templates—such as client financial goals and interactions, referrals, deposits and fees—enable front-line wealth advisors and retail bankers to begin using analytics immediately.

Einstein, the Salesforce AI platform, already delivers more than 3 billion predictions every day, helping our customers make smarter, more impactful decisions by acting as a smart CRM assistant across sales, service, marketing, commerce and more. With the ability to talk to Salesforce on any device, Einstein Voice Assistant and Einstein Voice Bots will empower everyone to be more productive and work smarter—from anywhere.

Marriott's AI-powered new customer recognition platform, powered by Salesforce solutions including Einstein Bots, enables 83 million guest conversations to continue from interaction to interaction across messaging platforms, mobile apps, websites, call-centers, and 7,000 properties.

Middle East organisations face a balance in their artificial intelligence features. While many organisations show a high level of interest in artificial intelligence, they also express concerns about how it will impact their current workforce. Artificial intelligence will never replace human beings in the workplace, rather artificial intelligence can help to download the repetitive work with no added value, to facilitate the next best action, and to deliver great accuracy on forecasts.

In order to prepare for the workplace of the near future, Middle East organisations may have to reassess their teams' skillsets, refocus their talent to deliver more complex tasks, and improve the overall level of service that they deliver in their business. ■

TACKLING DIGITAL TRANSFORMATION? DISCOVER WHY YOU NEED A TRUE DATA FABRIC

In a world where technology is changing our everyday lives, digital transformation tops the strategic agenda in most organizations. To successfully transform, data is becoming the lifeblood of an organization, seamlessly flowing through it to enable new customer touchpoints through technology, create innovative business opportunities, and optimize operations.

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ANAS A ABDUL-HAIY,
Director and Deputy CEO, Proven
Consult.

Using automation and AI to improve productivity

Robotic process automation can be used to prepare large data sets that in turn facilitate AI to generate insights for healthcare, finance, procurement.

The artificial intelligence evolution of automation is powered by the latest development in machine learning and data analytics. Artificial intelligence and machine learning are dependent on data integrity. The success of artificial intelligence depends on the quality of data to build models and provide accurate learning and results.

Obtaining data sets that are sufficiently large and comprehensive enough to be used for training is a huge challenge, for example, obtaining enough clinical trial data to predict healthcare treatment outcomes. While this data exists but not necessarily in digital format, it makes it extremely tough to cleanse the data for use.

Proven Consult uses automation solutions that are customised to

deliver results for client's challenges. Automating the procurement process and the application of artificial intelligence-based analytics, Proven Consult have pinpointed the bottlenecks in the current process and engineered improvements.

When combined with artificial intelligence, automation processes are enabled to grow with the companies' needs, giving longevity to solutions. With the addition of machine learning over past and current data Proven Consult have analysed trends and recommend future actions.

Proven Consult has built advanced procurement bots that help review contracts and compare them against best-in-class templates to flag terms and conditions that are nonstandard, as well as help procurement resources address a large set of

contracts that are tactical or nonstrategic in nature.

Proven Consult uses machine learning algorithms and artificial intelligence combined with OCR to extract data from scanned images which have resolution lower than 300 dpi. Proven Consult have used cognitive capabilities for an RPA bot to read and respond to unstructured text on chatbots.

There is increasing usage of automation and artificial intelligence in healthcare. In particular, patient monitoring, where patients use IoT powered wearables, which are connected through wireless devices to the monitoring platform. Data is transmitted through a mobile device to a secure cloud that the care provider can log into at any time.

If any of the vital parameters cross default or user-defined limits an alert is triggered to the care givers, or an ambulance if necessary. These devices are capable of screening for key parameters like pulse rate, oxygen saturation, respiratory rate, skin temperature, NIBP, blood sugar weight and BMI.

The client processes substantial volumes of cash, ACH and credit card transactions across multiple locations every day and the management team need to interpret these transactions in order to deliver real-time analysis of the organisation's financial performance.

Proven Consult implemented RPA bots to automate the existing processes, replacing manual spreadsheet-driven processes and automate account reconciliations, journal entries, transaction matching, task management and variance analysis.

Realised benefits were increase in the volume of transactions by 1 million+ per year, saved 5,000+ human hours per year and saved the organisation 1 million+ AED per year. ■



AHMED KHASHAN,
Cluster President Gulf Countries, Schneider
Electric.

Managing and predicting industrial performance with AI

Industrial systems create data that can be aggregated and used to build machine learning and AI environments that can predict how systems will function.

Artificial intelligence and automation's value in the industrial space is undeniable. Artificial intelligence has the potential to skyrocket rates of profitability in manufacturing by an average of 39% by 2035. Artificial intelligence and automation present a great opportunity to augment the essential human expertise of asking the right questions based on the specific needs of the environment and context.

This learning is placed into a trained model, which can be deployed as close to the action as possible, transforming both the rate and the accuracy of prediction and decision making.

Artificial intelligence and machine learning have evolved significantly, but we are now really starting to see the effects of what intelligent systems can do. In the data center, algorithms that have been built for task automation and predictive maintenance are becoming more

refined, allowing administrators to focus less on routine tasks and more on future planning.

As artificial intelligence and machine learning algorithms get more refined, their accuracy improves. Already, machines such as intelligent UPSs can alert us when they need a new battery or troubleshooting. Going forward, algorithms will leverage historical data to predict more precisely when something needs maintenance. So, in addition to telling something is about to fail, intelligent systems can minimise the chances of failure thanks to data-driven predictive maintenance models.

There is an endless set of applications in the industrial space of the Internet of Things for automation and artificial intelligence, be it smart factories, oil and gas facilities, petrochemical plants, office buildings, and even smart homes.

Wherever there is infrastructure,

there is an opportunity to use artificial intelligence and automation. Before we look there, customers need to start connecting devices and start looking at how to aggregate data. As you aggregate that data, as you can start to look at broader trends, you could start to bring in things like machine learning.

In the industrial space, that question often is, how can I constantly improve efficiency while ensuring uptime? Artificial intelligence can answer this question with data-based models made to predict outcomes such as when will this asset fail?

Critical operations and industries demand accuracy, so investing in experimentation is crucial for building the right models, which always will be as dynamic as the human intelligence they are meant to emulate.

Data scientists do not always know what any given artificial intelligence model's outcome will be, as outcomes depend on how predictive the data are. Artificial intelligence models therefore must start with a certain level of accuracy and improve over time and, in turn, be re-trained, re-versioned, and re-deployed within situational context.

Schneider Electric understands the importance of artificial intelligence. Schneider Electric is invested in developing predictive analytics and condition management tools, for example, to enable customers to predict failure long before downtime actually happens. ■

KEY INSIGHTS

- As AI and machine learning algorithms get more refined, their accuracy improves.
- AI has the potential to skyrocket rates of profitability in manufacturing by an average of 39% by 2035.

OFF THE LINE, LAND ROVER DEFENDER USED IN LATEST BOND

10 Land Rover Defenders were used in the making of No Time to Die including the seventh Defender built. Since revealing the new Defender in September 2019, Land Rover has seen interest with demand of the new model set to outstrip supply. Owners will receive their keys from Spring 2020.

The Defender vehicles used in No Time to Die were the first cars off the production line at Land Rover's Nitra factory in Slovakia. The Defenders are put to extreme tests as the vehicle is driven at top speeds through swamps and rivers.

Physical strength and durability are measured by a number of different tests including a bridge jump test which gave the team confidence to deliver what the stunt team needed, with no modifications to the body structure except the installation of a roll cage.



Ferrari Club Challenge launched for 300kmph drivers

Ferrari Middle East launched the Ferrari Club Challenge for the first time in the region. Three years after launching in Europe, the club has been launched in the region with exclusive driving opportunities at the region's best racing tracks. The Ferrari Club Challenge are for those who are keen to take their driving prowess to the next level, with sights and sounds of their Ferrari at 300kmh.





A table and space around it starting with a base

It was a desire to find quiet within noise that drove designers Sam Hecht and Kim Colin to create the Civic Table range. Civic is a comprehensive table collection that lends itself to variety of applications for work, home and hospitality. It includes meeting tables, conference tables, cafe tables, lounge tables, collaboration tables and side tables, each offering a choice of shapes, colours, materials and finishes. They developed one table base that works for all use without compromising function, cost or variety.



Signature Italian restaurant Bullano opens in Cairo

Bullona Cairo is the first outpost of the iconic Bullona concept from Milan. Based at the Four Seasons Hotel Cairo at Nile Plaza, the signature Italian restaurant boasts scenic views of the Nile from the riverfront. The highly anticipated Egyptian counterpart has come to life in collaboration with the original masterminds of Bullona, all of whom share a passion for the brand's philosophy, the determination to curate an environment where visitors can enjoy a lavish evening experience from beginning to end.

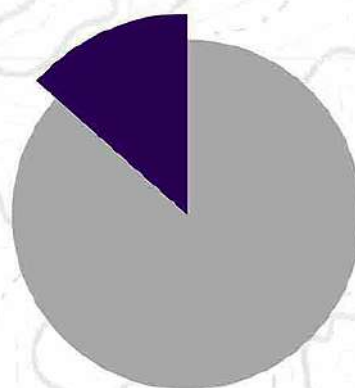


TOP FIVE TRENDS IN OIL AND GAS INDUSTRY TRANSFORMATION

SCALING DIGITAL TECHNOLOGIES

ONLY 9%

of respondents reported their department or division had been able to scale at least half of the digital proofs of concept (POCs) they've developed over the last two years



CONCLUSION

The search for value from digital investments continues.

KEY TAKEAWAYS FROM THE SURVEY:

- Oil companies **continue to invest in digital so they can remain competitive as the energy transition progresses** and leading companies continue to move to sustainable business models.
- Oil companies see **cybersecurity, cloud and big data/analytics driving the most business impact today**, and **artificial intelligence/machine learning driving more value tomorrow**.
- Digital is helping oil companies reduce costs and make faster and better decisions, but there is the **need to develop skills and reorganize in order to unlock this value**.
- To unlock the value of digital, oil companies should **define their "true north" and then develop a "base camp" of key capabilities needed to scale**.
- Oil companies **need to work in new collaboration models with external ecosystems** to gain access to the skills, technologies and innovation needed **to scale digital and unlock value** from their digital investments.

Source: Accenture Upstream Oil and Gas Digital Trends Survey 2019.

TOP FIVE TRENDS IN OIL AND GAS INDUSTRY TRANSFORMATION

THE SEARCH FOR VALUE

FIVE TRENDS IN DIGITAL INVESTMENT

Accenture Upstream Oil and Gas Digital Trends Survey 2019

accenture

TREND 01

Digital investments continue to increase—as digital is seen as a key enabler of a successful upstream business.

TREND 02

Cybersecurity leads digital investments today and is the technology of greatest impact—whereas big data/analytics, especially artificial intelligence, will take the lead tomorrow.

TREND 03

Digital helps optimize core businesses today and is expected to help drive faster and better decisions tomorrow.

TREND 04

Full value from digital is not being realized due to challenges with scaling.

TREND 05

External skills and partnerships are key to unlocking the value of digital.

Source: Accenture Upstream Oil and Gas Digital Trends Survey 2019.

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