TOP 10 STRATEGIC DRIVERS

SMART ENTERPRISE DRIVERS 2021

STRATEGIC REALITIES REFORMING THE SMART ENTERPRISE
TOP 10 SMART ENTERPRISE DRIVERS
OFFER VALUABLE GUIDANCE TO YOUR ORGANIZATION AND OPERATIONS SHAPING THE MARKET THIS YEAR AND BEYOND

1. Ubiquitous Connectedness
2. Smart Collaborative Workspace
3. Digital Transformation
4. Dynamic Delivery As a Service
5. Cloud Centric Accelerates
6. From Experience to Engagement
7. Holistic Business Continuity
8. Ensuring Data Security
9. Augmented Intelligence
10. Extending Reality
NEC’S TOP 10 STRATEGIC SMART ENTERPRISE DRIVERS 2021

Digital Transformation is recreating business models, disrupting how customers and employees function and altering whole industries. Social and business value surges when people, devices and resources are digitally connected. With the COVID-19 pandemic a further catalyst, organizations worldwide are embracing digital transformation to manage rapid organization-wide changes in support of business continuity, remote working and dynamic service delivery.

Explore NEC’s Top 10 Strategic Drivers and discover how to navigate through these changes to simplify your organization, realize workforce efficiencies and gain competitive advantages. Making sense of such disruptive changes has never been so important in order to transform smartly instead of being left behind.

As an Information and Communications Technology (ICT) leader with over 120 years of expertise and experience, NEC is sharing its views on leading and emerging trends and technologies to help your Smart Enterprise anchor its strategic investments. This means building and maintaining a solid yet flexible foundation capable of adapting to business change, deliver superior customer services and experiences, and enable an increasingly mobile and secure work environment.

By embracing Digital Transformation and enabling advanced approaches to how Communications and IT services are delivered and managed, NEC provides new ways for Smart Enterprises to thrive and grow.

Paul Kievit
Senior Vice President
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UBIQUITOUS CONNECTEDNESS
ANYWHERE OPERATIONS FOR A SMARTLY AVAILABLE WORKFORCE

Making staff omnipresent and 'always on' is key for smart enterprises to operate efficiently and effectively in today's business environments. Organizations are capitalizing on mobility solutions that enable employees to work from just about anywhere, at any given time whether on-site, at home, between appointments or while traveling. Technology advances ensure they remain fully integrated with their organizations, colleagues and customers, as well as with their social networks.

MOBILE FIRST

Mobile technologies will continue driving innovation and new services, extending communications, data and business applications to all mobile devices. Work/life balance is enriched by the power of the smartphone, serving both business and private communications and making it the favourite tool - not only for today's workforce but across all generations.

Smartphones and tablets have become the standard form factor for developing portals and business apps. Voice recognition and voice activation will be increasingly deployed because of their ease of use, speed and safety for people on the go, while ACPCs (Always Connected PCs) with bedded 5G and LTE connectivity will transform the laptop market forever.

5G BECOMES THE NAME OF THE GAME

5G and WiFi6 technology will drive factors in wireless growth, bringing increased bandwidth and higher internet speeds along with more reliable networks. It will change the way we interact on the internet and besides a further stimulus for abundant use of video, open doors for complex applications that rely on realtime access to Big Data conducted in the field.

Objects containing embedded technology that sense and interact with their environment (Internet of Things) – such as autonomous drones and driverless vehicles – enable detailed insights and swift decision making, which all will be facilitated by these advances in wireless technologies.
SMART COLLABORATIVE WORKSPACE
REMOTE WORKING IS HERE TO STAY

Companies are recovering from the effects of COVID-19 with a new appreciation of tools that support a more flexible and agile way of working. The dramatic rise in UC adoption is changing workplace dynamics into one of openness and agile teamwork. The traditional office is shrinking and home working and hybrid working are here to stay. Remote workers can join virtual meetings wherever they are, while full integration into a company’s network makes communications as smooth as in the office.

STIMULATING TEAM ENGAGEMENT

With the increase in home working businesses will need to keep remote workers engaged, motivated, and included in the company culture. Structuring daily meetings similar to the office environment help improve communication and maintain employee focus. Using video conferencing for daily check-ins will provide a similar experience as in-office meetings. Everyone seeing their colleagues will strengthen the feeling of being a valued member of a team working to achieve the company’s goals. During the day, jumping on a video call to find out how a co-worker is coping will stimulate similarly and an after-work quiz or virtual drink session will further build team cohesion.

DRIVING PRODUCTIVITY & REDUCING LATENCY AND BEYOND

Connected workspaces allow disparate teams to work together in real time and enable individuals to interact efficiently and effectively with colleagues, clients and suppliers, eliminating the need to travel to meet in person.

Smart workspaces provide easy access to UC&C tools such as instant video conferencing, team collaboration, digital whiteboarding and presence, driving productivity and reducing latencies across organizations. Click-to-call and conference capabilities from within business apps enable contextual discussions within workflows. Smart offices will go beyond just communications, with technologies offering integrated environmental control, access control, digital signage, motion sensors, people counting, room scheduling and voice activation in support of the ‘New Normal’.
DIGITAL TRANSFORMATION
LET’S GET DIGITAL

The integration of digital technology into all areas of an enterprise is fundamentally changing how organizations operate and deliver value to customers. It’s also a cultural change that requires flexibility and creativity in revisiting business models and operational processes.

Digital transformation involves using technologies like cloud computing, IoT, data analytics, mobile internet, artificial Intelligence, biometrics, voice recognition, robotics, machine learning, to remake workflows to become more efficient or effective. This not just by replicating an existing service in a digital form, but to use technology to transform that service into something significantly better and more secure.

EMPOWERING A DATA-DRIVEN ENTERPRISE

The power of capturing, processing and analysing data offers enterprises a tremendous opportunity to digitally transform every aspect of business, spanning how they engage with their customers, empower their employees, optimize their operations and design their products.

As enterprises rely more and more on data, the reliability of that data increasingly becomes a crucial factor. To ensure the integrity of their data, organizations will need to validate it, manage processes to protect critical data, ensure it is safely stored as well as swiftly retrievable.
DYNAMIC DELIVERY
AS A SERVICE

2021
INSTANT GRATIFICATION

The current ‘On-Demand’ generation does not expect, want to or have to wait for anything. They acquire information, products and entertainment instantly, on demand. The world is at their fingertips and they engage in real time to get what is needed. Not necessarily to own, cherish or maintain, but to use and experience without further hassle. Accustomed to immediate accessibility they are forcing businesses to be agile and responsive, changing business dynamics dramatically. And enterprises themselves too are increasingly embracing On Demand procurement strategies.

CONSUME (ONLY) WHAT YOU NEED – PAY (ONLY) FOR WHAT YOU USE

Modular services, pay per use and flexible deployment models are allowing businesses to invest in just what is needed now, trimming up-front costs and leaving options open for future expansion. Smart enterprises align their resources with their present business requirements taking advantage of Cloud solutions that are scalable and offer a pricing tier that charges only for the resources used.

Deploying As-a-Service models reduces CAPEX investments in equipment, space and professional resources, while it allows an organization to focus on its core expertise and activities. In 2021 Everything-as-a-Service (XaaS) will gain even more momentum, in even the most hardware-driven industries and sectors of society.

SERVICES DEFINED INFRASTRUCTURES

With equipment, functions and processes becoming more and more software driven, makes network elements programmable and dynamic to respond quickly to changing requirements. The goal of SDx (Software Defined Anything) is a service-focused infrastructure that increases efficiencies and enhances IT service delivery. In a private cloud setting, composable infrastructures enable IT departments to provision workloads quickly and efficiently, while still maintaining control over the infrastructure that supports mission-critical applications. The rapidly evolving trend towards Micro services uses application programming interfaces (APIs) to break applications into simple, discrete services, providing a foundation to quickly, easily and seamlessly integrate new services, without hindering users.
CLOUD CENTRIC
ACCELERATES
Cloud computing has revolutionized IT and software systems delivery. With many applications running in the cloud makes it incredibly easy for users to signup, access and draw on solutions available on demand and within minutes.

Moving IT & Communications provisioning to cloud platforms – be it in a public, on-premises or hybrid model - helps organizations reduce risk, reduce costs, increase revenue and customer experience. COVID-19 has accelerated the migration of enterprises to cloud-centric infrastructures and applications, with the need to work and interact remotely removing hurdles previously attributed to virtual interactions.

Cloud-based deployments can adopt new technologies much faster and more easily than their on-premises counterparts, with new functionality and applications driving rapid innovation.

New technologies including Serverless computing and Edge computing combined with AI and the Internet of Things (IoT) are reimagining the possibilities of the cloud. Edge computing will help IoT systems to significantly lower connectivity costs and reduce bandwidth requirements, which in turn will boost the widespread instant availability of services and insights across businesses and society.

Distributed cloud is where cloud services are distributed to different physical locations, but the operation, governance and evolution remain the responsibility of the public cloud provider. To have these services physically closer helps reduce latencies, reduces data costs and helps also privacy regulations that require certain data to remain in a specific geographical location. It allows customers to benefit from public cloud and avoid costly and complicated private cloud solutions.
ENHANCING TOTAL USER EXPERIENCE

The battle among enterprises for tomorrow’s customers is fought and won on customer experience. Companies are pushing hard to deliver connected Customer Experiences (CX) across channels, processes and departments - making contact easy and pleasant, lowering thresholds, presenting options most relevant to the customer and ensuring swift response to queries.

But also within an organization new tooling is introduced to enhance the Employee Experience (EX) for better business outcome. Applications and workflows become user-centric instead of device-centric, tools become intuitive and interactions swift and simple.

SMART DATA DRIVEN PERSONALIZATION

One of the keys to customer engagement lies in closely matching human behaviour, which will more and more be supported by applying predictive analytics to gathered customer data and create personality profiles that match the personality of customers.

Smart personalization engines that recognize customer intent will enable digital businesses to flourish. Artificial intelligence tools step in to build profiles of large customer sets and at the cutting edge of voice technology allow computers to understand the true meaning of voice including tone, sarcasm, pun, and even deeper context clues like double meanings. They measure behavioural cues, intentions and emotions to create accurate profiles that can be mapped to individual customers and prospects.

REINVENTING ENGAGEMENT MODELS

The power of social networking is driving organizations to integrate it into their business processes. Realising that CX includes every touchpoint a customer has with an organization, makes collecting and logging all customer data across all sources essential, in order to present a customer’s digital track record at the moment of need, e.g. during an agent’s conversation.

Taking this further, smart enterprises will reinvent their customer engagement models in order not only to deliver customers a unique, personalized one-off experience, but to ensure a long lasting relationship with the customer. Engaged customers are more likely to maintain an active two-way relationship with an organization, return often and provide valuable feedback.
HOLISTIC BUSINESS CONTINUITY
ASSURING SERVICES IN OUR DIGITALIZED NOW

Today’s high performance enterprises depend on reliable access to tools, information and people to persistently operate smartly and compete effectively. This requires a robust communications and IT infrastructure capable of providing always-on availability that can also self-heal should potential service disruptions occur.

Hardware- and software-based fault tolerance solutions that deliver Five 9s uninterrupted service guard against outages without compromising performance. Virtualized infrastructures improve business continuity and protect mission critical applications through system-level fault tolerance. Lock-step fault tolerance and geo-redundancy technology protect critical data and ensure business operations.

RESILIENCY IS CENTRAL TO THE NEW NORMAL

Choosing the right disaster recovery strategy is a key investment in the future stability of every organization. Smart enterprises build security into all organizational processes, with business and IT management working together to protect data and applications from hardware, OS and application failures due to malicious and natural disasters. End-to-end disaster recovery and readiness for fast data and application recovery must be a top priority regardless of organization size.

FAIL-PROOF DATA SECURITY & VERACITY

With the rapid growth of quantified and digitalized data and increased volumes of data flowing across networks and between devices, the risk of data leaks and breaches makes fail-proof security essential. In addition, inaccurate, manipulated, and biased data that leads to corrupted business insights and skewed decisions can have a major impact on business and society. Unverified data therefore becomes a new type of vulnerability.
ENSURING DATA SECURITY
THE AGE OF IT AND DATA DEPENDENCE

The power of capturing, processing and analysing data offers tremendous opportunity to transform every aspect of business. As enterprises rely more and more on data, ensuring data integrity becomes crucial. Organizations will need to validate it using machine learning, manage processes to protect it and ensure regulatory compliance.

The ubiquity of IT systems and our increasing dependence on them make cyber security a key topic. Organizations can be exposed to digital threats in various ways and need to capitalize on all technologies, processes and practices designed to protect networks, devices, programs and data from attack, leakage, damage or unauthorized access.

MANAGEABLE STORAGE SOLUTIONS

Enterprises increasingly deploy Big Data captured from mobile devices, social media, log files, emails, images and video to drive better business intelligence, product development and customer service. As data sets grow and more data is stored, organizations face numerous challenges that put severe demands on their backup systems.

The surge in data requires storage solutions to become more flexible and scalable as organizations find it increasingly complex to store, protect and manage all collected information. Storage solutions will intensify focus on simple manageability as well as ensuring excellent reliability. Real-time business processes and workflows will also require swift retrieval of data at the moment of need.

PROTECTING DATA WHILE IN USE

As many organizations strengthen and embed work from home in their operations, this will create a greater need for data security management for online collaboration. Privacy-enhancing computation protects data while it’s being used and is designed for the increasing need to share data while maintaining security. It enables organizations to collaborate on research securely across regions and with competitors without sacrificing confidentiality.

The threat posed by cyberattacks is forcing organizations to explore even more secure ways of transmitting information. Quantum communications takes advantage of the laws of physics to protect against eavesdropping by means of quantum cryptography. Blockchain technology provides a new model for transactional exchange that allows individuals and institutions to exchange value without traditional intermediaries, preventing malicious acts during data transfer.
AUGMENTED INTELLIGENCE
Artificial Intelligence and data-driven machine learning enable systems that are self-educating, self-healing and proactive, supporting autonomous, self-guiding processes. While Artificial Intelligence suggests automation to substitute human involvement, Augmented Intelligence focuses on its assistive role, enhancing rather than replacing human intelligence.

Augmented Intelligence has become one of the top strategic drivers and applied to enhance processes, from recognition, prediction and optimization to reasoning and decision making. Businesses will ramp up its usage to streamline efficiency for the organisation and achieve new levels of engagement, drawing on elements such as emotion recognition and behaviour analysis.

Converting data from real life objects, contexts and people into digital information can make patterns emerge in meaningful ways, yielding insights that e.g. improve consumption forecasting, resource requirements or predict potential malfunctions. While analytics tools so far focus on descriptive outcomes, their application will move towards predictive and prescriptive usage – making predictions about future events and behaviour, and recommendations on how to take advantage or react to the foreseen outcomes.

Many organizations are seeing new possibilities available through data collected in the past. As machine learning techniques develop, reuse of data to deliver incremental insights will be a trend many enterprises will be moving towards.

The pandemic and its social and economic impact have painfully illustrated the need for instant insight into the state of affairs. High frequency or fast data provide insights as to e.g. the move towards homeworking based on changes in electricity and water consumption, the geographic intensity of a virus based on sewage data, or the state of the economy based on the number of PIN transactions.

Similarly, mobile phone activity shows traffic movements and the actual density of people, and air pollution acts as indicator for levels of economic activity. Where institutes traditionally have used forecasting, they will include such nowcasting to provide a speedy and accurate idea of the state of affairs.
EXTENDING REALITY
EXTENDING HUMAN EXPERIENCES

Extended reality (XR) combines real and virtual environments with human-machine interaction, extending human experiences relating to the senses and the acquisition of cognition. Projecting computer-generated imagery into a user’s field of vision, superimposes it over what the user is viewing in the real world and will fundamentally change how we perceive the world and deliver on its promise: the end of distance to information and the end of distance to experiences.

A BRIGHTER FUTURE FOR ALL

Virtual and augmented reality technologies are removing the distance between people, information, and experiences, transforming the ways people live and work. Wearable technologies will expand our abilities and enhance memory and judgment. Computing abilities will expand to understand human thought, emotion, and intention, providing natural guidance of user behaviour and bringing safer and healthier living.

On an individual and group level, digital inclusion will enable intensified participation in society and make people feel more valued, creating new values, offering more potential and realizing a brighter future for all.

A WORLD RECREATED

New businesses and social habitats are emerging from the organic linkage of people, physical things, and processes, spurred by IoT and AI. Important steps are being made towards building smarter societies – where information and communications technologies play a vital role in ensuring energy efficiency, sustainable economic development, safety and security, along with wise management of natural resources.

We can expect to see XR assisting in tackling challenges posed by the current world situation with education and healthcare solutions enhancing learning and wellbeing. Medical examinations, diagnosis and even operations can increasingly be carried out remotely. XR tools within education will reduce the need to travel and gather in crowded classroom conditions.
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