Comments to the Ministry of Information Technology and Telecommunication of the Islamic Republic of Pakistan on The Personal Data Protection Bill 2020

May 15, 2020

The Global Data Alliance[i] welcomes the opportunity to share its views on the Personal Data Protection Bill 2020 ("the PDP Bill" or "the Bill"), which the Ministry of Information Technology and Telecommunication published on April 9, 2020.[ii] We have attached as appendices to this submission the Alliance's Position Paper on cross-border data transfers, as well as several documents describing the economic benefits of cross-border data transfers.[iii] The Alliance is a cross-industry coalition of companies, headquartered in different regions of the world, that are committed to high standards of data privacy and security.

Alliance member companies rely on the ability to transfer data responsibly around the world to create jobs and make local industries more competitive. Cross-border data transfers power growth across the globe and all sectors of the economy — from textile manufacturing and farming to local start-ups and service providers. Global Data Alliance members share a deep and long-standing commitment to protecting personal data across technologies and business models, as they recognize that today's cross-border economy depends on the trust of consumers and the general public. The Alliance, therefore, supports policies that protect personal data while enabling data to move across borders.

We welcome the opportunity to participate in the consultation on the PDP Bill. Because the ability to transfer data internationally is the lifeblood of the modern digital economy, we strongly suggest the final measure promote robust personal data protection through a legal framework that is flexible, fosters innovation, and allows companies to responsibly transfer data outside Pakistan. In particular, we recommend that the Ministry explore alternative approaches to the cross-border data restrictions and data localization mandates found in the Bill. We identify those provisions below.

Data Localization Mandates in the PDP Bill

- Article 14 stipulates that, "critical personal data" shall only be processed in a server or data center located in Pakistan.[iv]
- Article 15 stipulates that a copy of all personal data shall also be stored in Pakistan. Article 15 appears to apply to all types of personal data, including sensitive personal data and critical personal data.[v]

Data Transfer Restrictions in the PDP Bill

- Article 14 restricts the transfer of any personal data to countries that maintain a system of personal data protection at least equivalent to the protection provided under this Act.[vi]
- Article 15 provides that personal data (other than those categorized as critical personal data) will, in the future, be transferrable "outside the territory of Pakistan under a framework (on conditions) to be devised by the Authority."

We provide the following comments on these provisions.

The Bill's **data localization mandates and data transfer restrictions do not increase personal data protection**. It is frequently argued that data localization and data transfer restrictions are necessary to ensure that companies process and use data consistent with a country's data protection laws. This is not the case. In reality, organizations that transfer data globally should implement procedures to ensure that the data is protected even when transferred outside of the country. Different organization types and business models require the use of different transfer mechanisms that are not interchangeable. It is important that businesses be able to rely on a range of data transfer mechanisms, which may include, where relevant, adequacy decisions, certifications, codes of conduct, Binding Corporate Rules (BCRs), and Standard Contractual Clauses (SCCs). All of these mechanisms are critical to support global data flows and are built with strong safeguards. Where differences exist among data protection regimes, governments should create tools to bridge those gaps in ways that both protect privacy and facilitate global data transfers. Taking into account widely accepted privacy principles and industry best practices, governments should also aim to ensure that privacy frameworks are interoperable and allow for the seamless flow of data across borders.

Furthermore, **data localization mandates and data transfer restrictions undermine data security**. When governments restrict a company's ability to locate data in the most secure locations or to move data across borders, they create unnecessary obstacles to data security. Choice of data storage locations and cross-border data transfers are important for cybersecurity for several reasons. Companies may choose to store data at geographically diverse locations to reduce risk of physical attacks, to enable companies to reduce network latency, and to maintain redundancy and resilience for critical data in the wake of physical damage to a storage location. In addition, cross-border data transfers allow for cybersecurity tools to monitor traffic patterns, identify anomalies, and divert potential threats in ways that depend on global access to real-time data. When governments mandate localization or restrict the ability to transfer and analyze data in real-time, they create unintended vulnerabilities.

With respect to data localization, the **Bill's data localization mandates would likely have the effect of restricting the transfer of all data out of Pakistan**. "Critical personal data", which is the subject of the most onerous data localization mandates set forth in Article 14 of the Bill, is undefined, while "personal data" and "sensitive personal data" are defined broadly.[vii] In many cases, these types of data cannot be separated from each other, or from other types of data. This challenge is exacerbated here, given that "critical personal data" remains undefined, further undermining certainty and predictability. As a result, the practical effect of the Bill is that nearly all types of data may be required to be stored in Pakistan. This would severely disrupt operations of both data controllers and data processors, limiting available services and undermining productivity in significant ways.[viii]

With respect to data transfer, the **Bill's data transfer restrictions also risk significant economic disruption** for both Pakistan-based enterprises and foreign-invested enterprises operating in Pakistan. The Bill does not contain any mechanism to identify countries with an equivalent level of protection, which would appear to create a material risk of isolating Pakistan from the exchange with other countries of knowledge, technology, and economic activity. There is also no identified mechanism for determining transfer conditions, further undermining legal certainty and business predictability for Pakistan enterprises engaged in international commerce as well as foreign investors and enterprises offering services and goods needed within Pakistan's economy. As noted above, many companies that operate internationally adhere to robust and secure data transfer mechanisms, which may include, where relevant, adequacy decisions, certifications, codes of conduct, BCRs, and SCCs.

The Bill also requires both a finding of equivalency and (if applicable) consent to the transfer. This restriction would only appear to allow certain data to be transferred outside Pakistan when both: (1) consent is given by the data principal and (2) a basis for equivalency exists (e.g., via an adequacy decision or another as yet to be determined transfer mechanism). Requiring companies to meet both requirements before transferring data outside Pakistan is **duplicative, costly, and deviates from international best practices without increasing data protection**. For example, according to Article 49 of the EU's General Data Protection Regulation (GDPR), explicit consent alone is a basis for transferring

data to other countries, regardless of whether those countries have received an adequacy designation. As noted above, other appropriate safeguards also provide a sufficient basis for transferring data abroad without the need for consent.

Finally, the **unintended economic consequences** from the Bill's data localization mandates and data transfer restrictions must not be underestimated. These aspects of the Bill could have consequences for jobs, exports, and investment. For both Pakistan-based enterprises and foreign-invested enterprises in Pakistan, such measures **disrupt operations; raise the costs and challenges of providing services and manufacturing goods; and make it harder to invest and keep local workers employed**. Among other things, such measures effectively deprive end-users in Pakistan of advanced services and putting them at a competitive disadvantage compared with companies in other countries.

Data localization mandates and data transfer restrictions would raise costs for Pakistan export industries (e.g., textile manufacturing and agriculture), and could **impact Pakistan's exports**. Pakistan's trading relationship with many countries is driven by its exports of textile articles, knit and woven apparel, leather products, and a range of agricultural products.[ix] These articles account for $3.1 billion of Pakistan's $3.7 billion (i.e., 82 percent) in exports to the United States. Similarly, Pakistan's exports to the EU are dominated by textiles and clothing manufacturing, which account for 82 percent of Pakistan's total exports to the EU.[x]

Data localization mandates and data transfer restrictions are particularly damaging to traditional industries, including agriculture, logistics, and manufacturing (e.g., textiles). In fact, it has been estimated that **75% of the value of data transfers accrues to traditional industries**.[xi] Data transfers enable Pakistan-based micro, small, and medium-sized enterprises (MSMEs) to connect and find prospective customers in overseas export markets. Pakistan MSMEs and other firms also rely on data flows to increase their productivity, drive quality, and improve output in other ways. Data transfers are also critical to reducing the costs to Pakistan firms of exporting to other markets. One recent study estimates that **digital tools helped MSMEs across Asia reduce export costs by 82%** and transaction times by 29%.[xii]

In conclusion, for all of the aforementioned reasons, we strongly **recommend the Bill's data localization mandates and cross-border data transfer restrictions be avoided**. We appreciate the opportunity to share these views and hope that they will be helpful as the Ministry considers its next steps on the Personal Data Protection Bill, promoting a robust data protection environment, while allowing responsible stewardship of data to continue benefiting the citizens and economy of Pakistan. Please do not hesitate to contact us with any questions regarding this submission.

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[i] The Global Data Alliance is a cross-industry coalition of companies that are committed to high standards of data responsibility and that rely on the ability to transfer data around the world to innovate and create jobs. The Alliance supports policies that help instill trust in the digital economy while safeguarding the ability to transfer data across borders and refraining from imposing data localization requirements that restrict trade. Alliance members include BSA members and American Express, Amgen, AT&T, ITB360, Mastercard, Panasonic, United Airlines, Verizon, Visa, and WD-40 Company. BSA | The Software Alliance administers the Global Data Alliance. For more information on the Global Data Alliance, please see: https://www.globaldataalliance.org/downloads/aboutgda.pdf

[ii] *See* https://moitt.gov.pk/SiteImage/Misc/files/Personal%20Data%20Protection%20Bill%202020%20Updated(1).pdf

[iii] Please see the appendices for the following resource documents:

- Cross-Border Data Transfers Facts & Figures;

- Infographic of Jobs that Depend Upon Data Transfers; and
- Cross-Border Data Transfer – Creating Jobs and Trust in Every Sector

[iv] The term "critical personal data" is subject to future definition by the yet to be established future Personal Data Protection Authority PDPA. The term "processing" is defined as "any operation or set of operations which is performed on personal data or on sets of personal data, whether or not by automated means, such as collection, recording, organization, structuring, storage, adaptation or alteration, retrieval, consultation, use, disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction." Article 2(f).

[v] *See id.* Article 15 stipulates that, "[t]he Authority shall also devise a mechanism for keeping a copy of personal data in Pakistan to which this act applies."

[vi] The chapeau to Article 14 provides, in relevant part, as follows:

> Provided that if personal data is required to be transferred to any system located beyond territories of Pakistan or system that is not under the direct control of any of the governments in Pakistan, it shall be ensured that the country where the data is being transferred offers personal data protection at least equivalent to the protection provided under this Act and the data so transferred shall be processed in accordance with this Act and, where applicable, the consent given by the data subject.

[vii] Article 2(b) defines "personal data" as "any information that relates directly or indirectly to a data subject, who is identified or identifiable from that information or from that and other information in the possession of a data controller, including any sensitive personal data. Provided that anonymized, encrypted or pseudonymized data which is incapable of identifying an individual is not personal data."

Article 2(k) defines "sensitive personal information" as including "data relating to access control (username and/or password), financial information such as bank account, credit card, debit card, or other payment instruments, and, passports, biometric data, and physical, psychological, and mental health conditions, medical records, and any detail pertaining to an individual's ethnicity, religious beliefs, or any other information for the purposes of this Act and rules made thereunder."

[viii] For instance, a company that has employees based in Pakistan and has its payroll functions centralized in another country would need to meet duplicative and costly requirements to be able process its payroll as the bill classifies financial data as sensitive personal information. This could harm Pakistan-based employees as they might not receive optimal payroll services offered to employees in other countries.

[ix] *See* US-Pakistan trade data, available at: https://ustr.gov/countries-regions/south-central-asia/pakistan

[x] *See* EU-Pakistan trade data, available at: https://ec.europa.eu/trade/policy/countries-and-regions/countries/pakistan/

[xi] *See* Appendices to this submission (citing McKinsey Global Institute study that describes the ways in which manufacturing, agriculture, and other industries depend upon data transfers).
[xii] Micro-Revolution: The New Stakeholders of Trade in APAC, Alphabeta, 2019.

APPENDICES

GLOBAL DATA ALLIANCE
TRUST ACROSS BORDERS

CROSS-BORDER DATA TRANSFERS & DATA LOCALIZATION

The Global Data Alliance is a cross-industry coalition of companies, with headquarters in different regions of the world, that are committed to high standards of data privacy and security. Alliance companies rely on the ability to transfer data responsibly around the world to create jobs and make local industries more competitive. Cross-border data transfers power innovation and growth across the globe and all sectors of the economy–from manufacturing and farming to local start-ups and service providers.

Cross-border data transfers also enable the deployment of tools that facilitate teleworking, virtual collaboration, online training, and the remote delivery of services, including virtual healthcare solutions. These tools–which include cloud-based libraries and databases, video-conferencing applications, and interactive collaboration platforms–help foster cross-office R&D and innovation; build workforce productivity and skills; contain costs and carbon emissions; and promote public health and safety.

Data transfers enable the digital tools and insights that are critical to enabling entrepreneurs and companies of all sizes, in every country, to create new kinds of jobs, boost efficiency, drive quality, and improve output.

The Alliance has come together to advance policies around the world that promote the responsible movement of data across borders without imposing unnecessary data localization mandates or restrictions on data transfers. Data localization requirements and restrictions on international data transfers are estimated to reduce growth by billions of dollars in countries that implement them. These measures hurt local companies by preventing them from accessing innovative technologies, which can preclude local industry from participating in global supply chains and accessing customers in foreign markets. Goods and services that use data in various phases of their lifecycles are more competitive if they can use data from around the world. In addition, because data transfer restrictions create a significant burden on the implementing country's overall competitiveness, they also undermine the country's attractiveness as a destination for investment and R&D.

Several grounds are frequently cited as the basis for imposing data restrictions, but they are based on misconceptions, as discussed in this document. The Alliance will work to correct such misconceptions and show policymakers that they can achieve their goals without impeding the free flow of data.

CYBERSECURITY

It has been argued that data localization and data transfer restrictions are necessary to ensure cybersecurity. In fact, how data is protected is much more important to security than where it is stored. Data localization requirements and limits on data transfers often undermine data security. When governments restrict a company's ability to move data, they create unnecessary obstacles to data security. Cross-border data transfers are important for cybersecurity for several reasons. Companies may choose to store data at geographically diverse locations to obscure the location of data and reduce risk of

The Alliance has come together to advance policies around the world that promote the responsible movement of data across borders without imposing unnecessary data localization mandates or restrictions on data transfers.

The Alliance works to promote the responsible movement of data across borders without unnecessary data restrictions, while accounting for countries' legitimate policy concerns.

physical attacks, to enable companies to reduce network latency, and to maintain redundancy and resilience for critical data in the wake of physical damage to a storage location. In addition, cross-border data transfers allow for cybersecurity tools to monitor traffic patterns, identify anomalies, and divert potential threats in ways that depend on global access to real-time data. When governments mandate localization or restrict the ability to transfer and analyze data in real-time, they create unintended vulnerabilities.

PRIVACY

It has also been argued that data localization and data transfer restrictions are necessary to ensure that companies process and use data consistent with a country's data protection laws. This is not the case. In reality, organizations that transfer data globally should implement procedures to ensure that the data is protected even when transferred outside of the country. Where differences exist among data protection regimes, governments should create tools to bridge those gaps in ways that both protect privacy and facilitate global data transfers. Taking into account widely accepted privacy principles and industry best practices, governments should also aim to ensure that privacy frameworks are interoperable and allow for the seamless flow of data across borders.

LAW ENFORCEMENT

Some claim that data localization and data transfer restrictions are necessary to ensure that regulators and law enforcement authorities will have access to data relevant to conduct investigations. The location of the data, however, is not the determining factor. Responsible service providers work to respond to lawful requests for data consistent with their obligations to their customers and to protect consumer privacy. If the service provider has a conflicting legal obligation not to disclose data, law enforcement has several options: International agreements–including Mutual Legal Assistance Treaties (MLATs) or Agreements (MLAAs), multilateral treaties, and other agreements, such as those authorized by the United States Clarifying Lawful Overseas Use of Data (CLOUD) Act–can establish foundations for mutual legal assistance and reciprocal transfers of law enforcement data. Courts may also issue requests to authorities abroad for the transfer of data through letters rogatory.

These are some, but not the only, grounds upon which countries seek to impose data restrictions. The Alliance will work to promote the responsible movement of data across borders without unnecessary data restrictions, while accounting for countries' legitimate policy concerns.

GLOBAL DATA ALLIANCE
TRUST ACROSS BORDERS

The Global Data Alliance is administered by
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GLOBAL DATA ALLIANCE
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CROSS-BORDER DATA TRANSFER FACTS AND FIGURES

Cross-border connectivity–the movement of data across borders–powers innovation and job growth in all sectors and for people across the world. The statistical evidence is compelling:

Growing the Global Economy

2.5 quintillion data bytes are generated every day[1]

Data transfers contributed **$2.8 trillion** to global GDP, growing 45x every ten years[2]

60% of global GDP will be digitized by 2022, with growth in every industry driven by data flows and digital technology[3]

Connecting People to Economic Opportunities

6 billion connected consumers

25 billion connected devices

by 2025[4,5]

Benefitting All Sectors

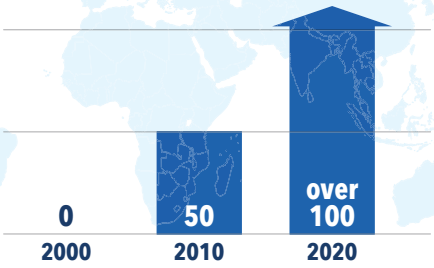
75% of the value of data transfers accrues to traditional industries like agriculture, logistics, and manufacturing[6]

For SMEs in Asia–digital tools **reduce export costs by 82%, and transaction times by 29%**[7]

Building International Consensus

164 countries have WTO services commitments, often covering cross-border supply of digital services

Sharp increase in regional negotiations on cross-border data transfers[8]



[1] World's Top Global Mega Trends to 2025 and Implications to Business, Society, and Cultures, Frost & Sullivan, 2014.

[2] Trade and Cross-Border Data Flows, OECD, 2019.

[3] FutureScape–Worldwide IT Industry 2019 Predictions, IDC, 2018.

[4] The Digitization of the World From Edge to Core, IDC, 2018.

[5] The Mobile Economy 2020, GSMA, 2020.

[6] Internet matters: The Net's sweeping impact on growth, jobs, and prosperity, McKinsey Global Institute, 2011.

[7] Micro-Revolution: The New Stakeholders of Trade in APAC, Alphabeta, 2019.

[8] As of 2010, approximately 50 countries (including 21 APEC members, 34 OECD members and various TPP negotiating parties). As of 2020, over 100 countries (including WTO members engaged in the Joint Statement Initiative e-commerce negotiations, African economies engaged in the African Continental FTA digital trade chapter negotiations, as well as the countries engaged in relevant negotiations in ASEAN, RCEP, the Pacific Alliance, and other bilateral and regional fora).

GLOBAL DATA ALLIANCE
TRUST ACROSS BORDERS

JOBS IN ALL SECTORS DEPEND UPON DATA FLOWS

In sectors from agriculture to advanced manufacturing, cross-border data transfers provide benefits–enabling innovation, creating jobs, and promoting productivity, safety, and environmental responsibility–through 21st century technologies like cloud computing, blockchain, data analytics, and artificial intelligence (AI).

R&D

Multinational R&D teams collaborate across borders to develop new products, cures, and other advances using cloud-based software solutions and research data produced globally.

Market Forecasting

AI tools analyze data from around the world to identify patterns that can help predict market demand, customer design preferences, and risk factors relevant to global investment decisions.

Safety and Productivity

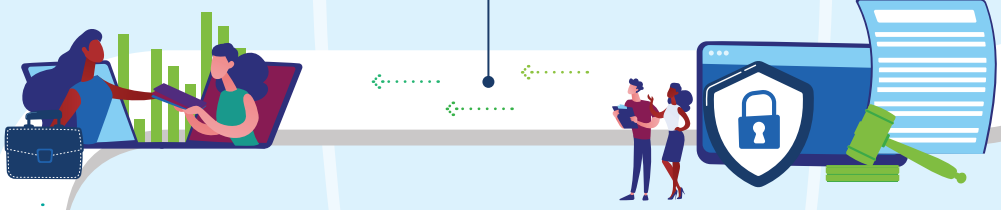
Real-time analytics of data gathered from sensors embedded in global production facilities, machinery, and other assets can alert operators before hazards or breakdowns can occur–allowing for predictive maintenance and safe, productive working conditions.

Sales

From order fulfillment, to invoicing, to responding to customer feedbacks–businesses can meet global customer needs only if they can receive and respond to customer queries transmitted across borders.

Regulatory Compliance

Legal compliance teams gather data from global operations to demonstrate that products and services meet regulatory requirements for transparency, safety, and effectiveness.



Inventory Control

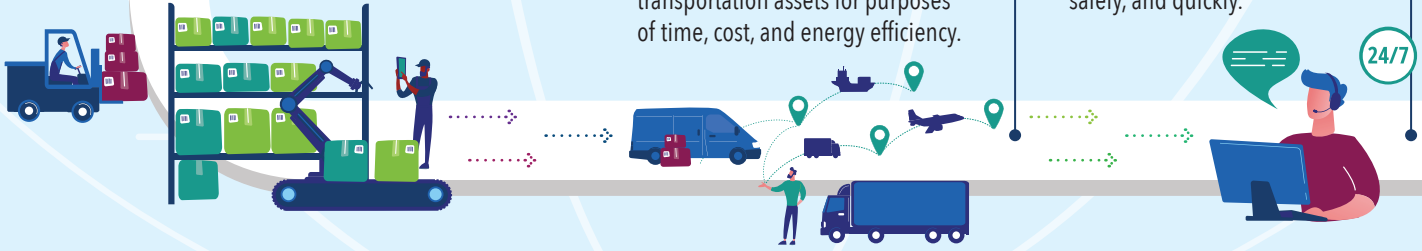
Data analytics and AI can be used to adjust global inventories–avoiding shortages and freeing up resources for more productive uses.

Supply Chain

Real-time electronic data exchange allows companies to authenticate documents seamlessly, optimize shipping routes, and manage transportation assets for purposes of time, cost, and energy efficiency.

Post-Sale Service

Cross-border data transfer allow manufacturers to trace and recall products, and address service requests, transparently, safely, and quickly.



GLOBAL DATA ALLIANCE
TRUST ACROSS BORDERS

THE CROSS-BORDER MOVEMENT OF DATA: CREATING JOBS AND TRUST ACROSS BORDERS IN EVERY SECTOR

The seamless movement of data across borders–often referred to as "cross-border data flows"–is essential to the global economy. What exactly are cross-border data flows and how do they affect you?

"Cross-border data flows" refer to the movement or transfer of information between servers across country borders. Companies need to be able to freely move data around the world so that wherever you are, you have access to the information and services you need. Everyone from individuals to large corporations relies on transferring data.

Data moving across borders is critical for the services that sustain global commerce, protect consumers from fraud and counterfeit products, improve health and safety, and promote social good.

SUSTAINING GLOBAL COMMERCE

Transforming Aviation

Digital innovation is transforming the global aviation industry. Data-driven software solutions and technologies improve customer experience and drive predictive maintenance, equipping airline companies with the tools they need to reach new heights.

- 2.7 billion passengers use Panasonic Avionics solutions each year on more than 2,500 connected aircraft. Inflight entertainment, ecommerce analytics platforms, and personalized inflight maps all help enhance the passenger flight experience and drive business value for airlines. Panasonic relies upon the rapid and seamless movement of information across the globe to provide these services to airlines and passengers.[1]
- United Airlines connects to Airbus' global cloud-based platform to store, manage, and analyze data more effectively. By analyzing real-time flight data and other performance indicators across its 4,900 daily flights, this data-driven platform helps United Airlines enhance predictive maintenance while also decreasing costs.[2]

Connecting Global Businesses

Businesses that operate globally–including hotels, car manufacturers, freight and logistics enterprises, and restaurant chains–benefit from data analytics that allow them to reach more customers, improve customer experiences, and work more efficiently. Businesses use cloud-based services to pool large amounts of data from their operations around the world to accomplish these goals.

- When international and local firms partnered to redevelop Terminal 1 at San Francisco International Airport, Autodesk's cloud-based BIM 360 Design software brought team members together. Staff from San Francisco, New York, Melbourne, New Delhi, and Dubai were able to coordinate in real time through one common cloud-based model. The ability to transfer data between countries helped studios, contractors, and stakeholders partner with their colleagues across the globe to tackle this complex project.[3]

Data transfers contribute USD $2.8 trillion to global economic activity, or 3.5 percent of global GDP, according to the Organization for Economic Cooperation and Development.

60 percent of global GDP will be digitized by 2022, with growth in every industry driven by digitally enhanced offerings, operations, and relationships.

- Global retailers leverage solutions that enable them to track products and shipments from around the world. A multi-edge computing system running on Verizon's network empowers retail supply chain managers with increased visibility into the movement of their shipments. The free flow of data helps retailers locate and track products along the supply chain in near-real time, reroute shipments to avoid extended delays, and calculate accurate arrival time data based on traffic conditions and machine learning.[4]

The free flow of information around the world helps businesses connect with international customers and develop products that closely meet their needs. Companies in many industries use Salesforce software to provide employees with real-time customer insights from across the globe. This 360-degree view gives companies' R&D, supply chain, and product groups insight into evolving customer needs and opportunities.

Elevating Global Manufacturing

New digital innovations drive manufacturing today by boosting job growth and efficiency, with economic impacts as transformative as those sparked by the first industrial revolution. Powerful software-driven technologies help expand a manufacturer's strategic options–enabling companies to create new kinds of jobs, drive quality, and improve output.

- Mahindra & Mahindra, an India-based automaker, uses an end-to-end life cycle management solution from IBM to connect employees to teams and projects located across the world. From the design and initial development of a new vehicle to testing and product delivery, the ability to rapidly transfer data across the globe enables closer coordination and transparency in the development stage, helping bring vehicles to market faster and minimizing defects in those vehicles.[5]

- Headquartered in Italy, Biesse Group is a global leader in wood, glass, stone, plastic, and metal processing technology. The company relies on Siemens software to reduce errors and make product information available to all stakeholders across different business areas and roles. Centralizing company data means Biesse can share product information with 1,000 employees in China, India, and Italy. The free movement of information also facilitates collaboration with external partners, design offices, and material suppliers and subcontractors.[6]

PROTECTING PEOPLE

Fraud Detection and Cybersecurity

Detecting payment fraud offers one of the clearest examples of the benefits of cross-border data flows. Effective fraud mitigation depends on cross-border data flows as it demands sophisticated monitoring of historical payment transaction information and global or multi-country data sets.

- Mastercard's Decision Intelligence™ uses artificial intelligence (AI) to detect fraud patterns. By analyzing multiple data points, the solution helps banks make better decisions before authorizing or declining a transaction. This results in an increase in approval rates, a better consumer experience, and a reduction in the number of legitimate transactions that could otherwise be declined based on "false positives."[7]

Detecting Counterfeits

Each year, counterfeit goods cost the global economy billions of dollars–and some phony products can even endanger lives. To combat this problem, brand owners invest time and effort to track down and remove fraudulent products from the market. These efforts help ensure that the products you buy are safe and trustworthy.

- The free movement of data around the world helps brands identify the sources of counterfeit and infringing products. WD-40 Company, which manufactures some of the world's best-known brands, relies on data from e-commerce sites, webshops, social media channels, country registrars, and export and import records to aid them in their efforts to detect and take action against such products.

KEEPING PEOPLE SAFE AND HEALTHY

Enhancing 21st Century Medical Care

Cross-border transfers of personal data allow hospitals and other care facilities to use clinical support software. The software analyzes electronic health records, health insurance claims, and data sets to help caregivers improve effectiveness of medical treatments and reduce risks.

- Amgen, a multinational biopharmaceutical company, also uses real-world data to identify global and regional populations of patients whose needs aren't being met by current therapies. This allows the company to optimize selection criteria for trials, which in turn helps speed recruitment of patients and ensure relevant results. The end result: greater understanding of how well different medicines fare in helping people around the world stay productive and healthy.[8]

- Fullerton Health operates an extensive network of about 200 medical clinics in Australia, China, Hong Kong, Indonesia, Malaysia, New Zealand, the Philippines, and Singapore. The organization regards itself as Asia's largest vertically integrated health system and uses Microsoft's cloud services to integrate health care delivery across its medical network. Clinic staff can quickly and securely access shared documents, patient notes, and care plans from any device, regardless of their physical location.[9]

Feeding the World

In farming, precision agriculture techniques and collaborative software are transforming the industry and maximizing agricultural opportunity. When widely deployed, precision farming technologies can increase global crop yields as much as 67 percent and cut food prices in half. These transformative technologies rely on the movement of data gathered from thousands of sensors located across countries and regions.

- Norway-based Yara, one of the world's largest fertilizer producers, partnered with IBM to build a digital farming platform. Through the platform, which provides holistic digital services and instant advice to farmers across the globe, Yara and IBM aim to boost the efficiency, transparency, and sustainability of global food production. The initial focus of the joint work lies on farm and field data management as well as data-driven, joint innovation for farmers, which is already successfully launched in various markets across the world.[10]

- Nutreco is an international leader supporting livestock farming and aquaculture, which feed millions of consumers worldwide. AT&T helps connect each of their 200 locations in rural areas across Asia, Europe, Latin America, and North America. AT&T's global network empowers Nutreco employees to connect and collaborate securely, whether they are working in the company's Dutch headquarters or in a remote factory.[11]

PROMOTING SOCIAL GOOD

Responding to Disasters

Effective responses to natural disasters–which affect hundreds of millions of people globally each year–largely depend upon responders' ability to locate, reach, and care for affected civilians. In recent years many public and private efforts have sought to leverage data analytics to assist in disaster response and recovery.

- Intel used AI to help the Red Cross map parts of the world that are particularly vulnerable to natural disasters and epidemics. The process began with satellite imagery. An AI model developed by Intel data scientists processed the imagery on Intel hardware and identified bridges that are critical for transportation in Uganda, which is prone to both viral outbreaks and severe flooding. Intel then worked with the Red Cross to validate the dataset and upload it to OpenStreetMaps, a free, volunteer-driven, editable map of the world used by the Red Cross and other NGOs for disaster planning and response to ensure that aid workers get to

According to the U.S. International Trade Commission, fully half of all global trade in services now depends on access to cross-border data flows.

people in need—both quickly and safely. This process depends on the ability of information to freely move across national borders.[12]

- After a natural disaster, 96 percent of small businesses see revenue losses, with 35 percent experiencing losses of greater than $25,000. Visa launched Back to Business in Australia to support small businesses, and mitigate their revenue losses, as part of bushfire disaster relief efforts and community rebuilding. The tool leverages global transaction data to locate small businesses in disaster-affected areas, and points consumers to those merchants that either remain open or have re-opened for business following the natural disaster.[13]

Fostering Sustainability

Global sustainability efforts rely on accurate data from many countries. Whether scientists are tracking endangered animal populations, analyzing climate data, or combating illegal poaching and fishing, the free flow of data is essential.

- Overfishing is a significant factor in the decline of ocean wildlife populations. The UN Food and Agriculture Organization estimates one-third of all fish stocks are no longer biologically sustainable. To combat this, nonprofit organization OceanMind uses Microsoft AI technology to map data and work with government authorities around the world to catch perpetrators. OceanMind's system has the capacity to track millions of boats across the globe and gather data from a wide range of sources to identify and report illegal fishing.[14]

Protecting Children

Sharing information across borders can help law enforcement, nonprofits, and government agencies around the world focus their resources to protect children more effectively. The important work of these organizations requires monitoring, tracking, and information dissemination around the world.

- Save the Children, a nonprofit active in 120 countries, works to give children around the world a healthy start in life. In India, Save the Children works to uplift the 30 percent of the population living in poverty. Using Oracle's cloud-based services, Save the Children India can tap into a global pool of employee specialists as candidates for their emergency-response units. Save the Children staff also rely on Oracle's cloud services for access to real-time financial data from their global locations, which helps them track grants and report outcomes to donors.[15]

ENDNOTES

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