Compliance and Governance in the Digital Economy

Xiping Li

Associate Professor

Xiamen National Accounting Institute

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

Contents

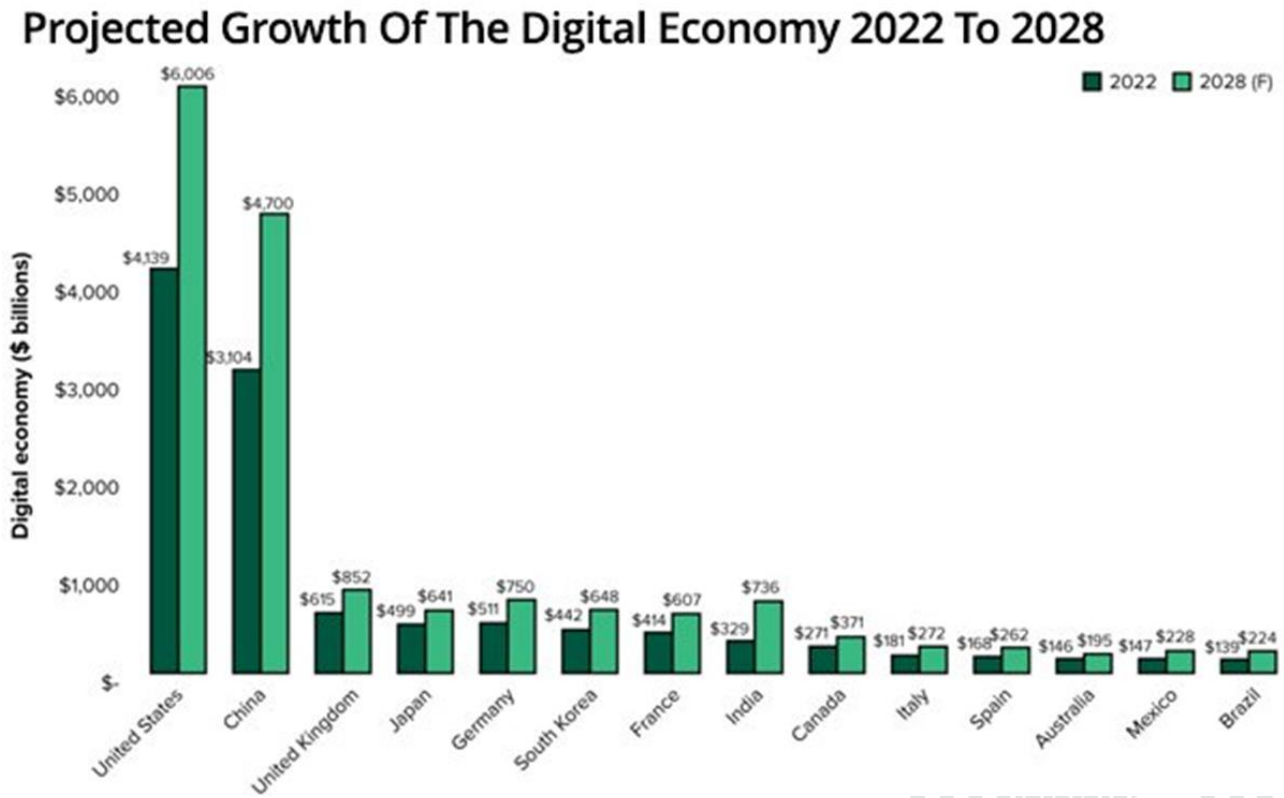
厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

Contents

Introduction

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Digital economy**: The convergence of digital technologies with traditional economic practices.
- It encompasses a wide range of industries and sectors, from e-commerce and digital marketing to fintech and digital media.



Key Achievements: E-commerce

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Expansion of E-commerce
  - For example: Alibaba

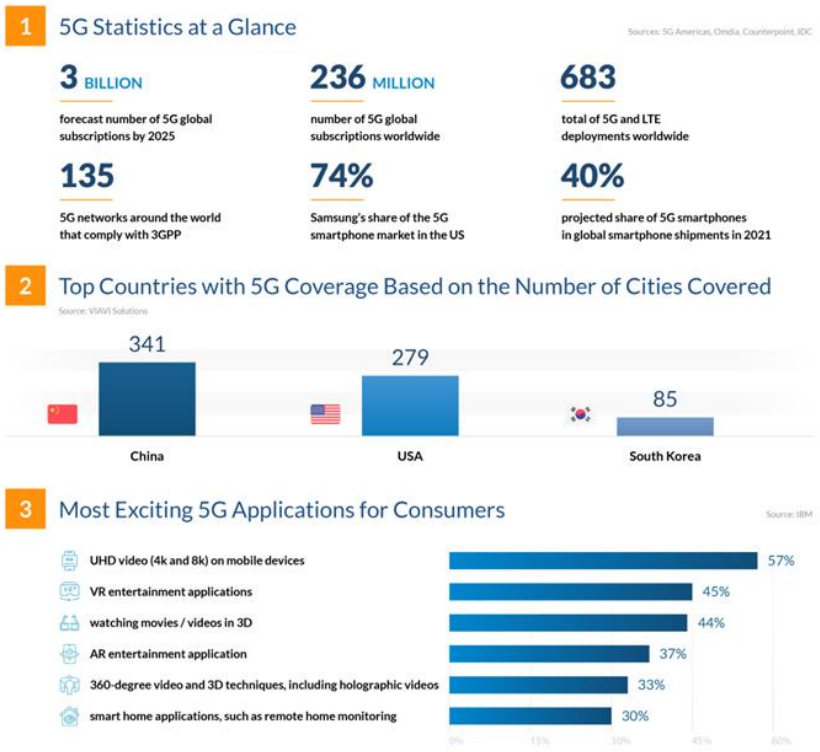
Business	E-commerce	Cloud Intelligence	Local Services	Logistics Network	Digital Media and Entertainment	International Digital Commerce
Typical examples	Taobao, Tmall	Alibaba Cloud	Ele.me, Koubei	Cainiao Network	Youku	AliExpress

淘宝 Taobao
Alibaba Cloud
饿了么
CAINIAO 菜鸟
YOUKU 优酷
AliExpress
天猫 TMALL.COM
口碑 Koubei

Key Achievements: 5G Networks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

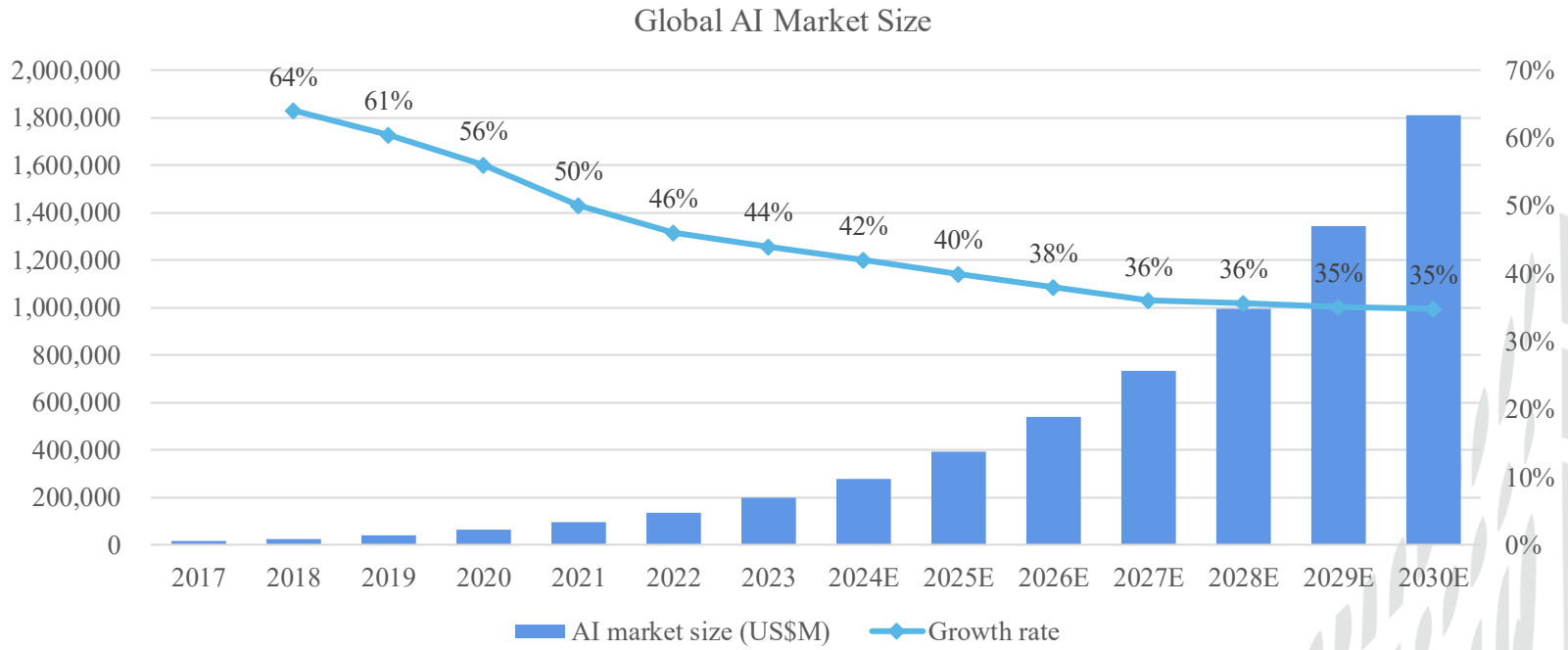
- Commercial launches of 5G networks
  - China: Has built the world's largest standalone 5G network
  - U.S.: Has achieved nearly 98% network coverage using low-frequency networks
  - Europe: Most countries have rapidly expanded 5G network coverage
  - Overall, the global deployment and implementation of 5G applications have accelerated.



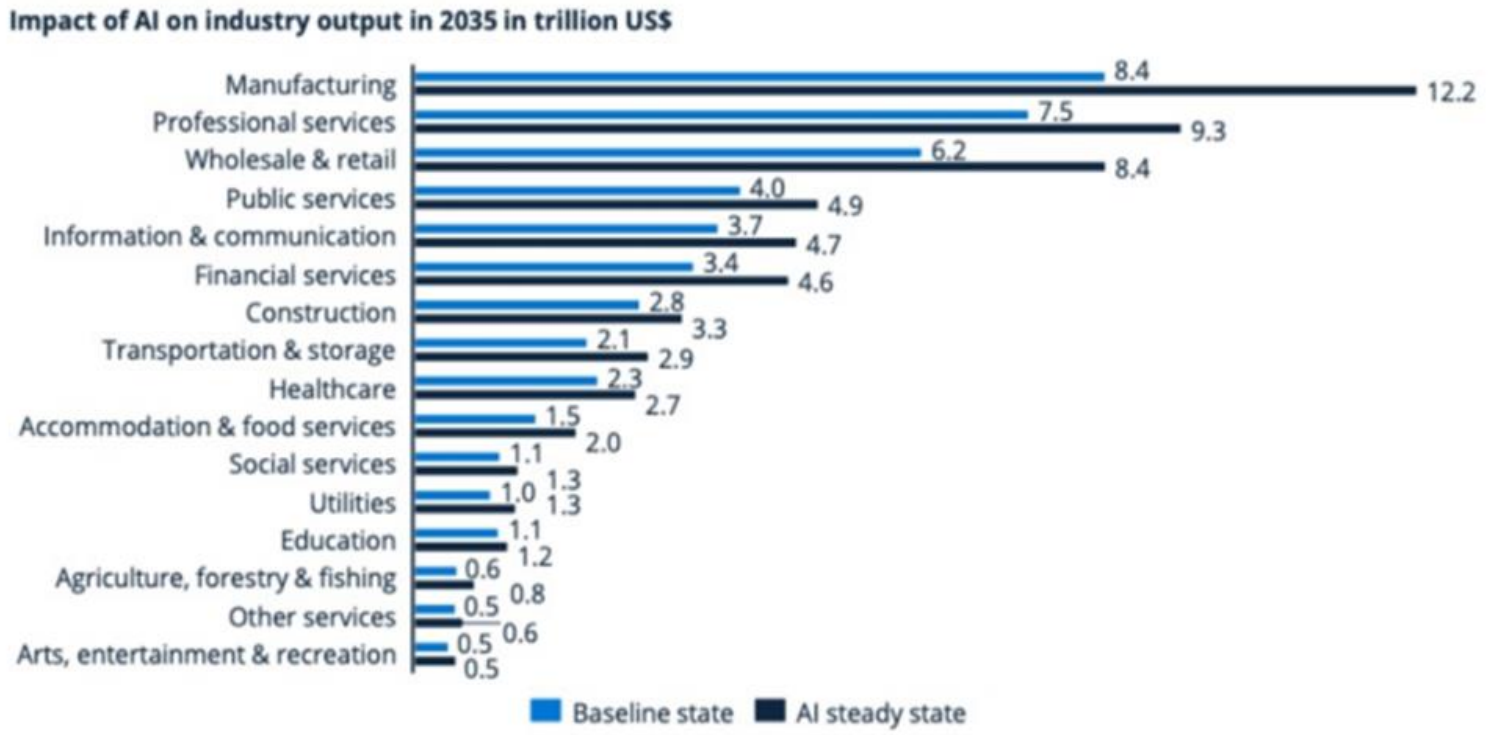
Key Achievements: Artificial Intelligence

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Artificial intelligence (AI) and machine learning (ML): Global AI industry growing rapidly



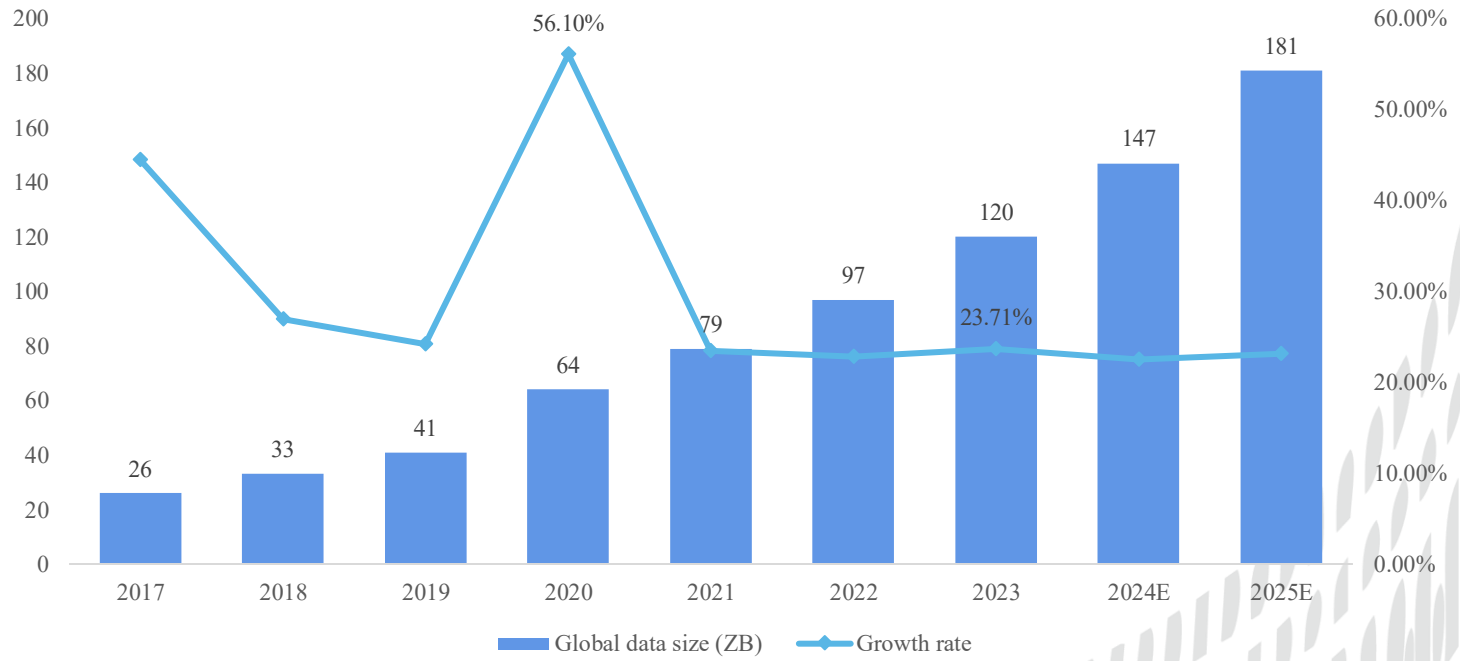
Artificial Intelligence



Key Achievements: Big Data

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- 5V characteristics: Volume, Variety, Velocity, Veracity, Value
- From data to value



Data as an Asset

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Key aspects:
  - Data-driven decision-making
  - Customer insights and personalization
  - Innovation and new revenue streams
  - Enhanced operational efficiency
  - Risk Management

- Challenges and considerations: privacy, security, data governance, ethical considerations, etc.

Data Elements ×

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Data is a new type of **production factor**.

- Three-Year Action Plan (2024-2026) for Data Elements ×
  - **Application of data elements in the areas**: Manufacturing, Agriculture, Trade and Commerce, Transportation, Financial Services, Technological Innovation, Tourism, Healthcare, Emergency Management, Meteorological Services, Urban Governance, Green Low-Carbon Initiatives
  - **Multiplier effect of data elements**

Key Achievements: Blockchain Technology

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Digital finance and blockchain technology

- **Blockchain** is a distributed ledger technology that enables the creation of a secure, transparent, and tamper-proof record of transactions. Transactions are grouped into blocks, which are then cryptographically linked and secured. This chain of blocks is maintained across a decentralized network of computers (nodes) through a consensus mechanism.

Blockchain

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Key features of blockchain
  - Distributed Ledger Technology (DLT): Each node independently verifies and records transactions
  - Decentralized network: No single point of failure
  - Immutability: Transaction records are permanent and tamper-proof
  - Secure and transparent: Cryptographic techniques to secure transactions; all participants in the network have access to the same data, which is updated in real-time
  - Anonymity: Engage in transactions without revealing their real-world identities
  - Traceability: Easy to trace the history of any asset or data recorded on the blockchain

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

Contents

Challenges of Digital Economy

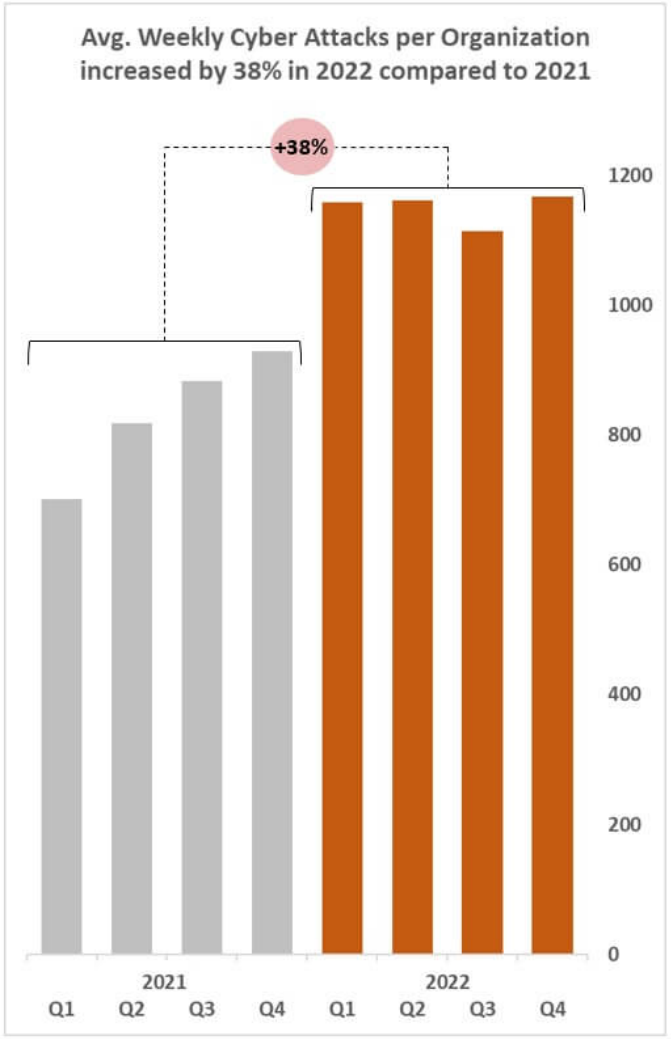
厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

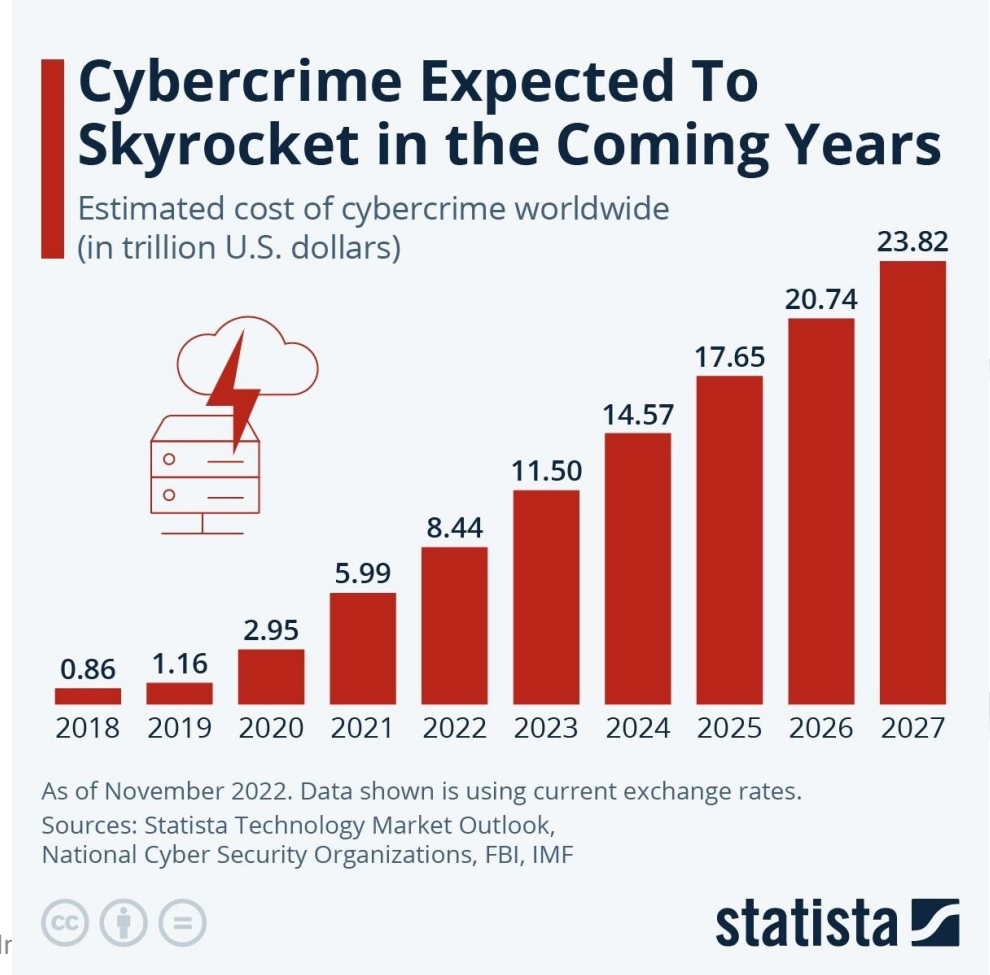
- Data privacy and security
  - Cybersecurity threats: Data breaches, malware, phishing and social engineering
  - Harmonizing global standards and fostering international cooperation are necessary to combat cross-border cyber threats.
  - Human factors and training are also vital.

AI and Cybersecurity

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- The maturity of AI technology is likely to accelerate the number of cyberattacks.

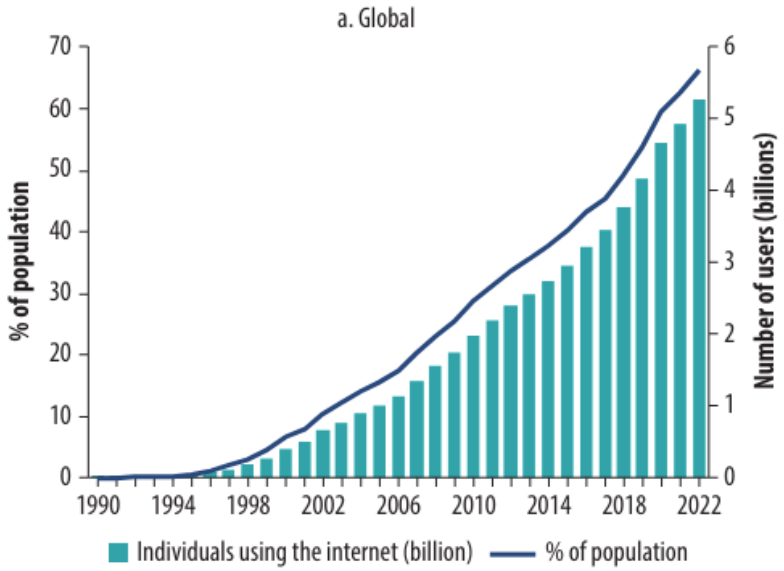


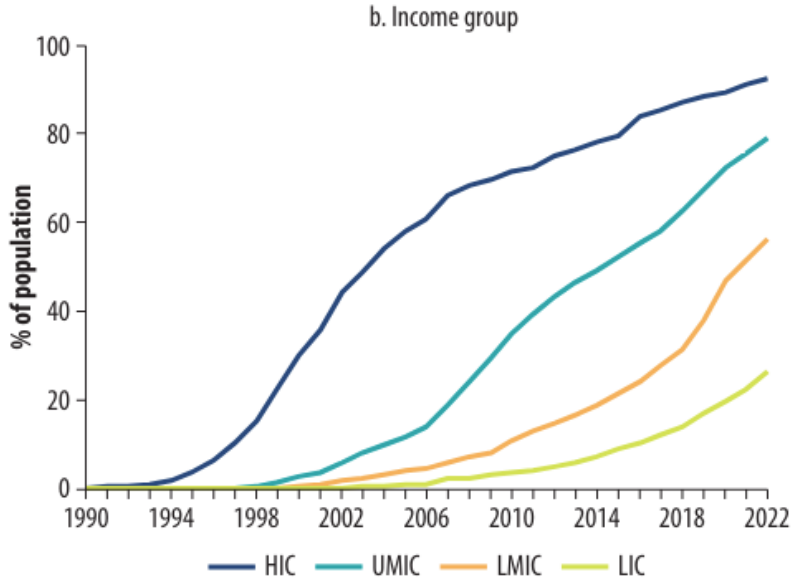


Challenges of Digital Economy

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Digital divide and inequality: Not everyone has equal access to digital tools and internet connectivity.





Challenges of Digital Economy

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Dependence on technology and systemic risks
  - Example: Global IT Outage

Challenges of Digital Economy

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Regulatory and legal complexities
  - Rapid growth of the digital economy & Proper regulatory frameworks
  - Different regulatory frameworks across regions
- Job displacement and skills gap
- Ethical and social implications
  - algorithmic bias, loss of privacy, etc.
- New technologies need to be regulated.

Compliance and Governance in Digital Economy

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- The digital economy's rapid growth brings both opportunities and challenges, making **Compliance, Risk, and Governance** (CRG) essential components for sustainable and ethical business operations.
  - Ensure legal compliance and data protection: Regulatory compliance, data security
  - Protect stakeholder interests: Consumer trust, investor confidence
  - Maintain operational efficiency and security: risk management, operational continuity
  - Promote innovation and ethical practices: Balance between compliance and innovation

Regulatory Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Data privacy and protection regulations**
  - Data governance: Define how data is collected, processed, stored, and used
  - Data privacy: Data anonymization, data encryption, secure storage, etc.

  - Global regulations: For example, General Data Protection Regulation (GDPR) in the European Union, the California Consumer Privacy Act (CCPA) in the U.S., and Personal Information Protection Law (PIPL) in China
  - Industry-specific regulations: For example, Payment Card Industry Data Security Standard (PCI DSS) in financial services
  - Local laws

General Data Protection Regulation

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- General Data Protection Regulation (GDPR): The toughest privacy and security law in the world
  - Effective on May 25, 2018
- Key objectives
  - **Strengthen data protection**: Enhance the protection of personal data for individuals within the EU.
  - **Harmonize data privacy laws**: Standardize data protection regulations across the EU to simplify the regulatory environment for business
  - **Increase accountability and compliance**: Ensure organizations are responsible for protecting personal data and adhering to data protection principles.

General Data Protection Regulation

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- The GDPR defines:
  - Individuals' fundamental rights in the digital age
    - Right to be informed
    - Right of access
    - Right to rectification
    - Right to erasure
    - Right to restrict processing
    - Right to data portability
    - Right to object
    - Rights in relation to automated decision making and profiling
  - The obligations of those processing data
  - Methods for ensuring compliance
  - Sanctions for those in breach of the rules

Regulatory Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Cybersecurity standards and regulations**
  - Essential for protecting digital infrastructure and safeguarding sensitive data
  - Global regulations: For example, Cybersecurity Information Sharing Act (CISA) in the U.S., Network and Information Security (NIS) Directive in the European Union and Cybersecurity Law (CSL) in China
  - Industry-specific regulations: For example, Health Insurance Portability and Accountability Act (HIPAA) in healthcare, and Payment Card Industry Data Security Standard (PCI DSS) in financial services

Cybersecurity Information Sharing Act

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Cybersecurity Information Sharing Act (CISA): Enhance cybersecurity resilience by promoting collaboration between private companies and government agencies to share cyber threat information
  - Enacted in 2015
- Key objectives
  - **Promote cyber threat information sharing**: Create a legal framework for voluntary sharing of cyber threat data.
  - **Reduce legal liability**: Provide liability protection for companies sharing information in good faith.
  - **Support critical infrastructure**: Focus on protecting essential sectors like energy, healthcare, and finance.
  - **Encourage collaboration**: Foster a two-way flow of threat intelligence between the government and private sector.

Regulatory Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Digital finance and cryptocurrency regulations**
  - **Anti-Money Laundering** (AML) **and Know Your Customer** (KYC): Enforce user verification and transaction tracking to prevent illicit activities.
  - **Fraud prevention and consumer protection**: Safeguard against fraud, secure customer assets, and protect investors.
  - **Tax compliance**: Ensure that digital transactions and cryptocurrency profits are reported for taxation purposes.
  - **Market integrity and stability**: Address issues like price manipulation, especially for stablecoins and other high-risk assets.

Regulatory Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Cryptocurrency regulations**
  - Some countries have established regulatory frameworks for cryptocurrency
    - Japan's Financial Services Agency (FSA) requires cryptocurrency exchanges to register and comply with **AML** and **KYC** standards
    - Switzerland: Swiss Blockchain Act in 2021

  - China has banned decentralized cryptocurrencies but developed its central bank digital currency (CBDC)

Regulatory Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **AI and ethics guidelines**
  - Transparency: Explainable AI decisions to build trust.
  - Fairness and non-discrimination: Minimizing bias to prevent unfair treatment.
  - Accountability and human oversight: Ensuring humans can oversee or intervene in high-risk AI systems.

  - Examples of AI frameworks: EU AI Act; Directive on Automated Decision-Making in Canada; AI Utilization Principles in Japan

EU AI Act: A Pioneering Framework

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Risk-Based classification:** AI applications categorized as minimal, limited, high, or unacceptable risk.
  - **Minimal and limited risk**: Basic transparency requirements for low-risk applications, such as chatbots or AI-powered games
  - **High risk**: Strict standards for sensitive areas like healthcare and finance, including data quality and human oversight
  - **Unacceptable risk**: Prohibited applications, such as social scoring
  - Accountability measures

Other Global Approaches to AI Ethics

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **United States**: AI Bill of Rights outlines principles such as data privacy and freedom from discrimination
- **Canada**: Directive on Automated Decision-Making for public sector AI, focusing on transparency and accountability
- **Japan**: AI Utilization Principles encourage ethical AI development with a voluntary compliance approach.

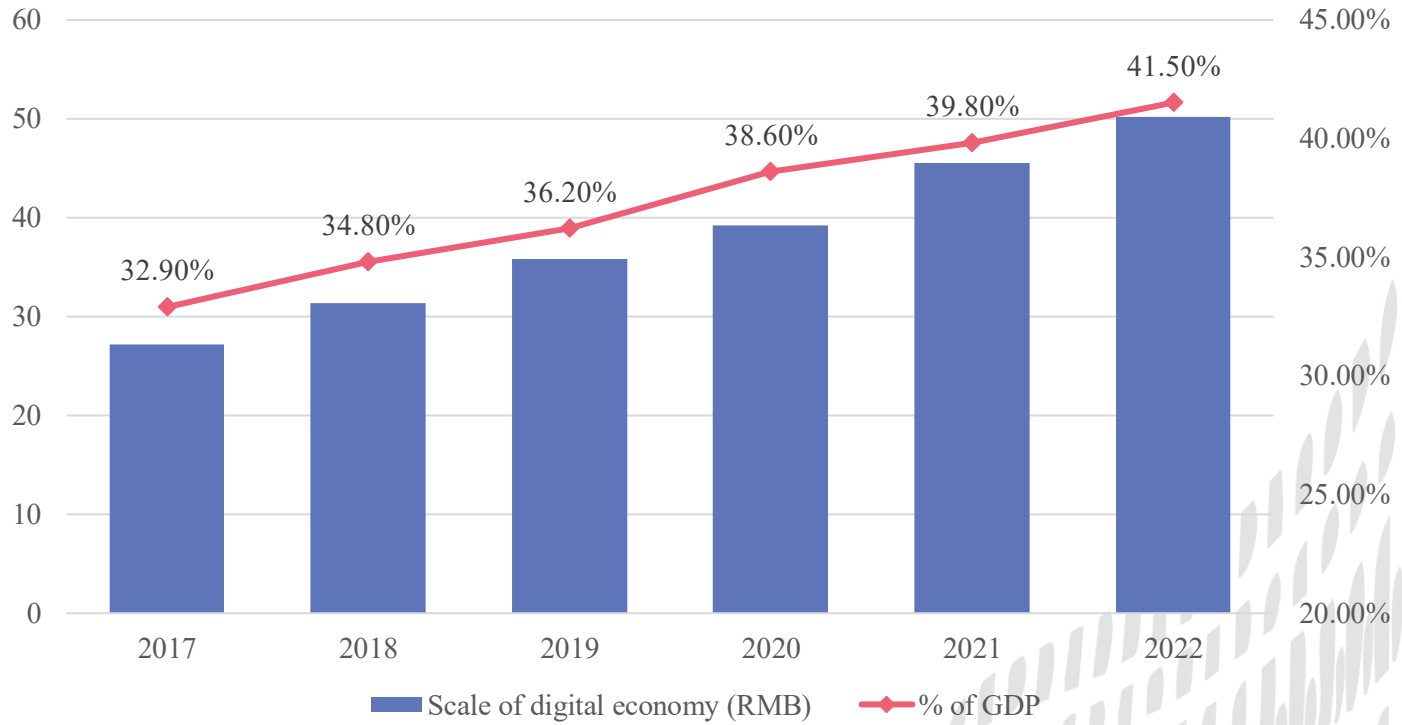
厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

Contents

Digital Economy in China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Digital economy in China has been the main contributor to the GDP
- 20th National Congress of the CPC: Accelerate the development of digital economy, promote the deep integration of digital economy and real economy, and build a digital industrial cluster with international competitiveness



New Quality Productive Forces

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- New Quality Productive Forces: High technology, high efficiency and high quality
- Technological innovation is “the core element of developing new quality productive forces”
- New Quality Productive Forces and the digital economy are closely interrelated

Digital Economy in China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Major Achievements of China's Digital Economy
  - **Digital infrastructure**: 5G deployment, Central Bank Digital Currency (e-CNY)
  - **Innovation ability of digital industry**: AI, big data, cloud computing, etc.
  - **Industrial digital transformation**: Smart manufacturing, platform economy
  - **E-Commerce dominance and digital payment systems**
  - **Digitalization of public services**: E-Government, smart city projects
  - **Network security and data governance**: Cybersecurity, data governance
  - **International cooperation in digital economy**: Global partnerships

Existing Compliance and Governance Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Personal Information Protection Law (PIPL)**: Data protection law
  - Effective on November 1, 2021
  - Scope: Governs the collection, use, storage, and transfer of personal data
  - PIPL applies to the processing of personal information of individuals within China, regardless of where the data processor is located.

  - Individual rights: Access and copying, correction and deletion, portability, and withdrawal of consent
  - Obligations of data processors: Transparency, security measures, data minimization, data retention

Existing Compliance and Governance Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Cybersecurity Law (CSL)**
  - Effective on June 1, 2017
  - Scope: Establishes comprehensive requirements for network security and data protection.
  - CSL applies to network operators, which include owners, administrators, and service providers using networks within China.

  - **Network security obligations**: Network security measures, incident response
  - **Critical Information Infrastructure** (CII): CII operators must implement enhanced security measures, conduct regular security assessments, and undergo inspections by the relevant authorities.
  - **Data localization**: Personal information and important data collected within China must be stored domestically.

Existing Compliance and Governance Frameworks

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Data Security Law (DSL)**: Comprehensive framework to strengthen data protection, ensure national security, and regulate data handling practices across sectors.
  - Enacted on September 1, 2021

- Key Components
  - **Data classification and grading**: Classify data by sensitivity and importance – "core" "important" or "general"
  - **Cross-border data transfers**: Restrict cross-border data transfers, especially for critical and sensitive data
  - **Data security measures**: Implement robust security safeguards
  - **Compliance and accountability**: Establish internal data security management system

AI Guidelines in China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- China does not have a single AI law but has developed multiple regulations impacting AI, focusing on data security, privacy, transparency, and government oversight.

- Ethical principles:
  - **Trustworthy AI**: Emphasizes reliability, fairness, and transparency, ensuring AI benefits society while minimizing risks.
  - **Government alignment**: Ethical Norms for New Generation AI (2021, Ministry of Science and Technology)
    - Fairness and non-discrimination; Transparency and accountability; Privacy protection
  - **Algorithmic regulations** (2022, Cyberspace Administration of China)

AI Guidelines in China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

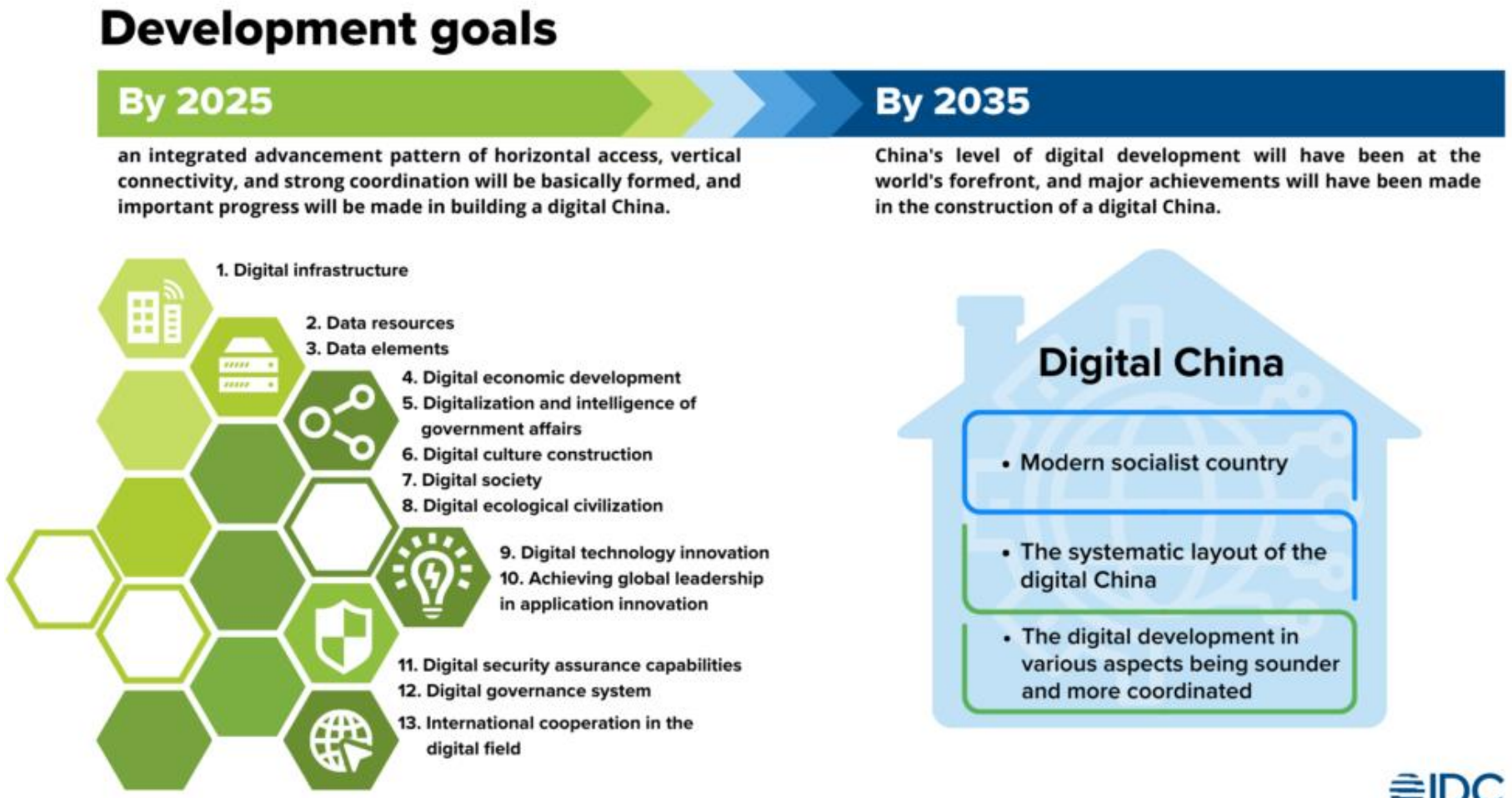
- Key regulatory frameworks:
  - **Data Security Law (DSL)**: Regulates data handling and cross-border data transfers, ensuring secure data management for AI systems.
  - **Personal Information Protection Law (PIPL)**: Focuses on data privacy, requiring consent for data collection and protecting personal information used in AI applications.
  - **Cybersecurity Law**: Provides foundational cybersecurity requirements, particularly affecting AI in critical infrastructure.

- Focus areas: Protecting data, controlling sensitive information, and aligning AI with national priorities.

Building the Road to Digital China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Overall Layout Plan for the Construction of Digital China



IDC

Building the Road to Digital China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Overall Layout Plan for the Construction of Digital China: “2522” framework
  - **Strengthening two foundations**: Digital infrastructure and the data resource system
  - **Promoting the deep integration of digital technologies with**: Digital economy, digital government services, digital culture, digital society, digital ecological civilization
  - **Enhancing two major capabilities**: Digital technology innovation system and digital security framework
  - **Optimizing two environments**:
    - Establishment of a fair and standardized digital governance ecosystem
    - Improvement of international digital cooperation

Building the Road to Digital China

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Overall Layout Plan for the Construction of Digital China places significant emphasis on **compliance and governance**
  - The digital sector needs to be regulated.
  - The compliance sector needs to be digitized.

- Key compliance and governance requirements:
  - Improving the legal and regulatory system
  - Building a technology standards system
  - Enhancing governance levels
  - Purifying cyberspace

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

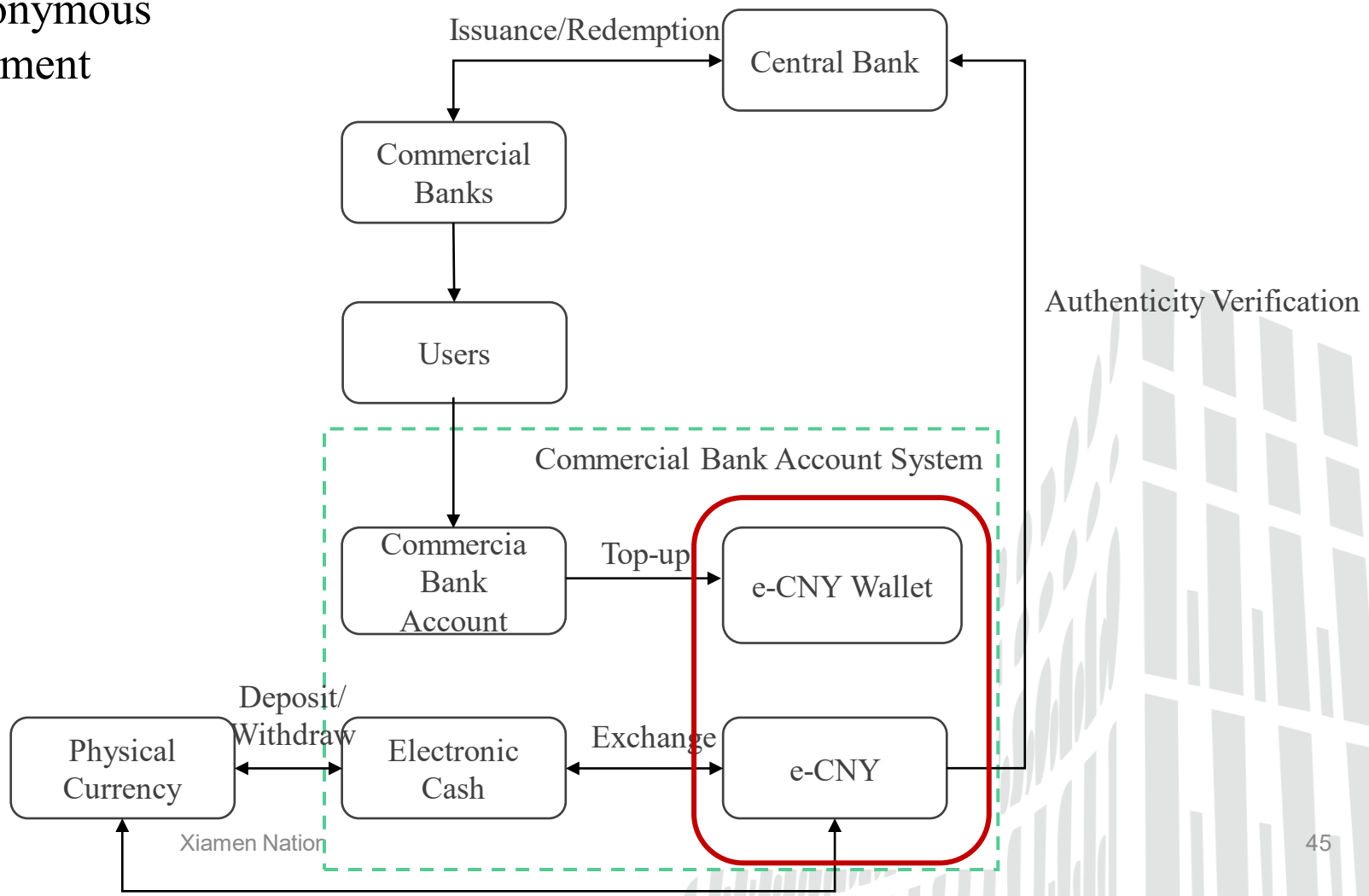
Contents

Central Bank Digital Currency

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Digital Currency Electronic Payment (DC/EP): The e-CNY, or digital yuan, is a centralized, cash-like digital currency that can be used for retail payments and/or wholesale settlement.
- China is the first major economy to issue Central Bank Digital Currencies.
- Driving factors of the development of the e-CNY

- Two-tier operation: Central bank and commercial banks
- Controllable anonymous
- Dual offline payment



CBDC in Cross-Border Payments

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- In October 2020, the G20 endorsed a roadmap to enhance cross-border payments, and explore how CBDCs could potentially enhance cross-border payments.

- Key advantages:
  - **Enhanced efficiency and speed**: No intermediaries
  - **Increased transparency**: Transactions made using CBDCs are recorded on blockchains
  - **Regulatory and legal framework**: Central bank oversight

CBDC in Cross-Border Payments

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

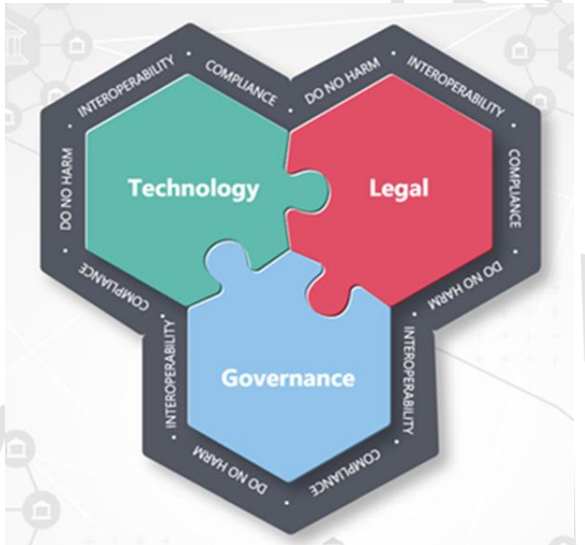
- **Project mBridge:** Initiated by BIS Innovation Hub, the Digital Currency Institute of the People's Bank of China, the Hong Kong Monetary Authority, the Bank of Thailand and the Central Bank of the United Arab Emirates.
- Objective: To explore a multi-CBDC (Central Bank Digital Currency) common platform for wholesale cross-border payments.

- Project goals:
  - Tackle key pain points of cross-border payments, such as high costs, settlement risks and low speed.
  - Advance cross-border settlement in central bank money.
  - Support use of local currencies in cross-border transactions.
  - Create opportunity for new and innovative payment products and services.

Principles of Project mBridge

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- **Compliance**: the platform developed for Project mBridge complies with international standards and different jurisdictions' regulations, such as AML and CFT.
- **Do no harm**: central banks can still perform exchange-rate control and capital flow management measures on the platform.
- **Interoperability**: the platform supports interoperability with participants' existing financial infrastructures.

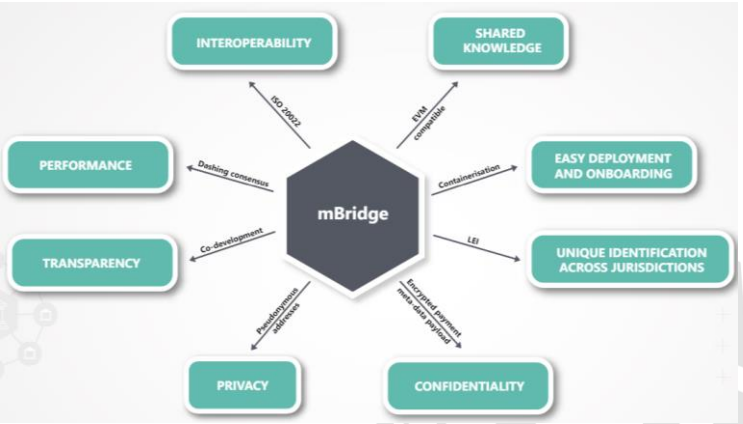


Project mBridge and Governance

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

How does the mBridge help reduce risks in cross-border payments?

- Lego-Bricks Approach: Modularize functions such as payments, foreign exchange, capital management, and AML/CTF functions
- Built on distributed ledger technology (DLT)
  - No single point of failure
  - Enhanced security
  - Transparent to authorized parties
  - Privacy protection
- Interoperability with participants' own systems
  - A domestic CBDC system is not a precondition for joining the mBridge platform.



Development of Project mBridge

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- During the 2022 pilot phase, the mBridge platform successfully processed real-value transactions.
  - 20 banks in Hong Kong SAR China, Thailand, mainland China and the UAE used the mBridge platform to conduct 164 payment and foreign exchange transactions totalling over $22 million.

- As of mid-2024, Project mBridge has reached the Minimum Viable Product (MVP) stage.
  - Signifies a fully functional platform ready for broader use.
  - Includes features like real-time cross-border payments, foreign exchange transactions, and compliance checks.

- Project mBridge is now inviting private sector firms to propose new solutions and use cases that help develop the platform and showcase all its potential. Interested firms can apply to participate.

Future Trends in Digital Governance

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Data sovereignty and localization
- AI regulation and ethical governance
- Privacy and cybersecurity
- Standardization for emerging technologies
- Transparency and accountability

Conclusions

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE

- Digital Economy: Economic growth, efficiency and convenience, global reach
- Importance of compliance and governance in ensuring ethical and legal operations within the digital economy
- The role of technology in enhancing compliance through automated monitoring and reporting
- Integrating technology in compliance presents both challenges and opportunities

Questions and Comments?

厦门国家会计学院
XIAMEN NATIONAL ACCOUNTING INSTITUTE