BITAS
BUSINESS IT ARCHITECTURE SERIES
ASIA CONFERENCE 2023

Accelerating Digital Innovation for Sustainable Development

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IASA
The Business Technology Architect Association

PRIME MINISTER'S DEPARTMENT
MALAYSIAN ADMINISTRATIVE MODERNISATION AND MANAGEMENT PLANNING UNIT (MAMPU)

KEYNOTE

ENTERPRISE ARCHITECTURE AS THE FOUNDATION FOR A SUSTAINABLE ARCHITECTURE

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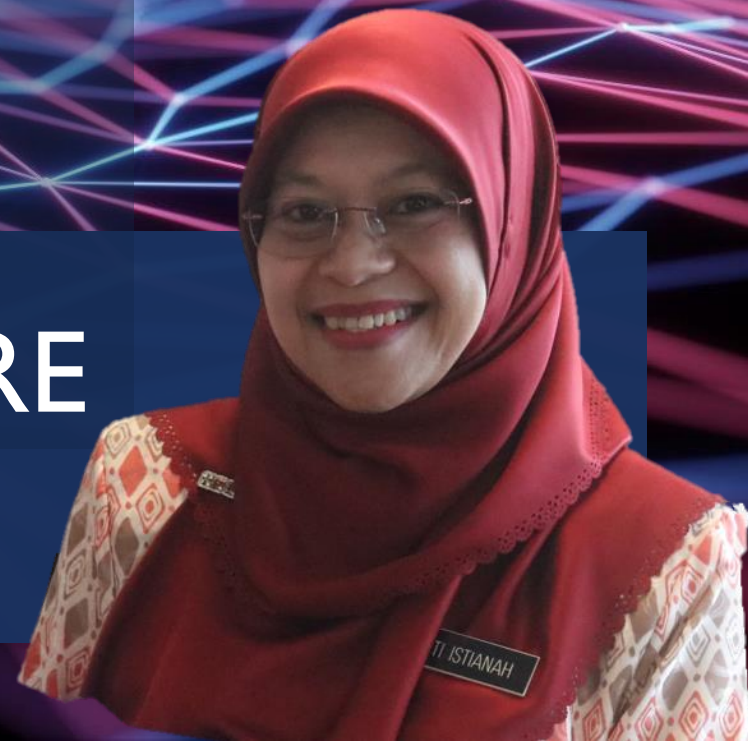
Public Sector ICT Expert



SUSTAINABLE IT ARCHITECTURE

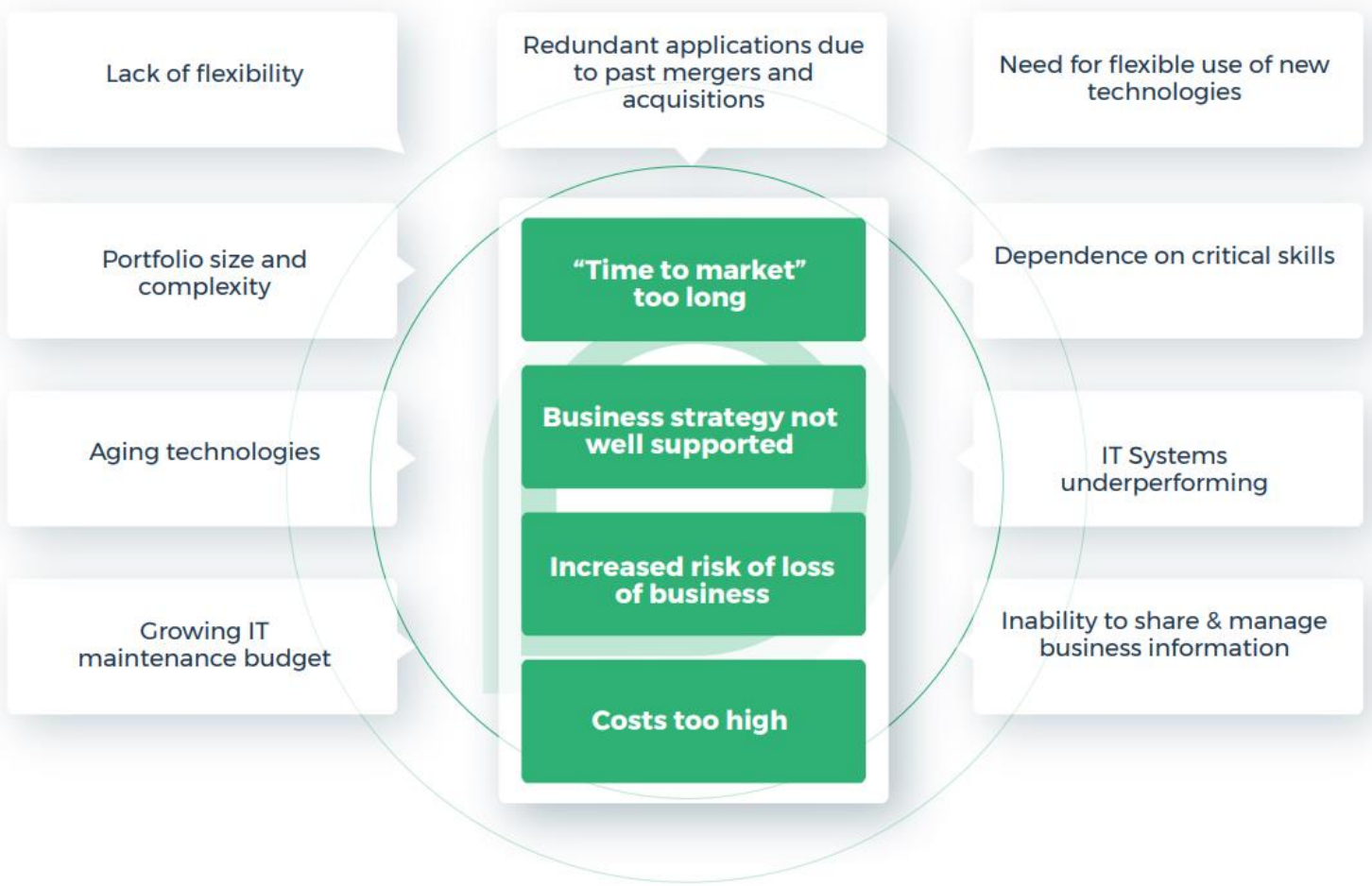
Sustainable IT architecture refers to THE DESIGN and implementation of IT SYSTEMS that are environmentally friendly and sustainable. It involves the use of energy-efficient hardware, software, and infrastructure that minimize the carbon footprint of IT operations. It involves the use of sustainable software architecture, which is **designed to REDUCE THE ENVIRONMENTAL IMPACT of software systems**

To achieve it, **organizations need an informed strategy, engaged employees and leadership, and SUSTAINABLE SOFTWARE ARCHITECTURE**. This will not only leave a greener footprint, it will also unleash the potential of smart technologies to drive environmental innovations and improvements in sustainability performance·

Sustainable IT is a broad topic that includes both **environmental and social sustainability throughout the product life cycle**. Doing it right can help your organization reduce risks, lower costs and improve business results.

Sustainable, or “green,” IT is a catch-all term used to describe the **manufacture, management, use and disposal of information technology** in a way that minimizes damage to the environment. As a result, the term has **many different meanings, depending on whether you are a manufacturer, manager or user of technology**.

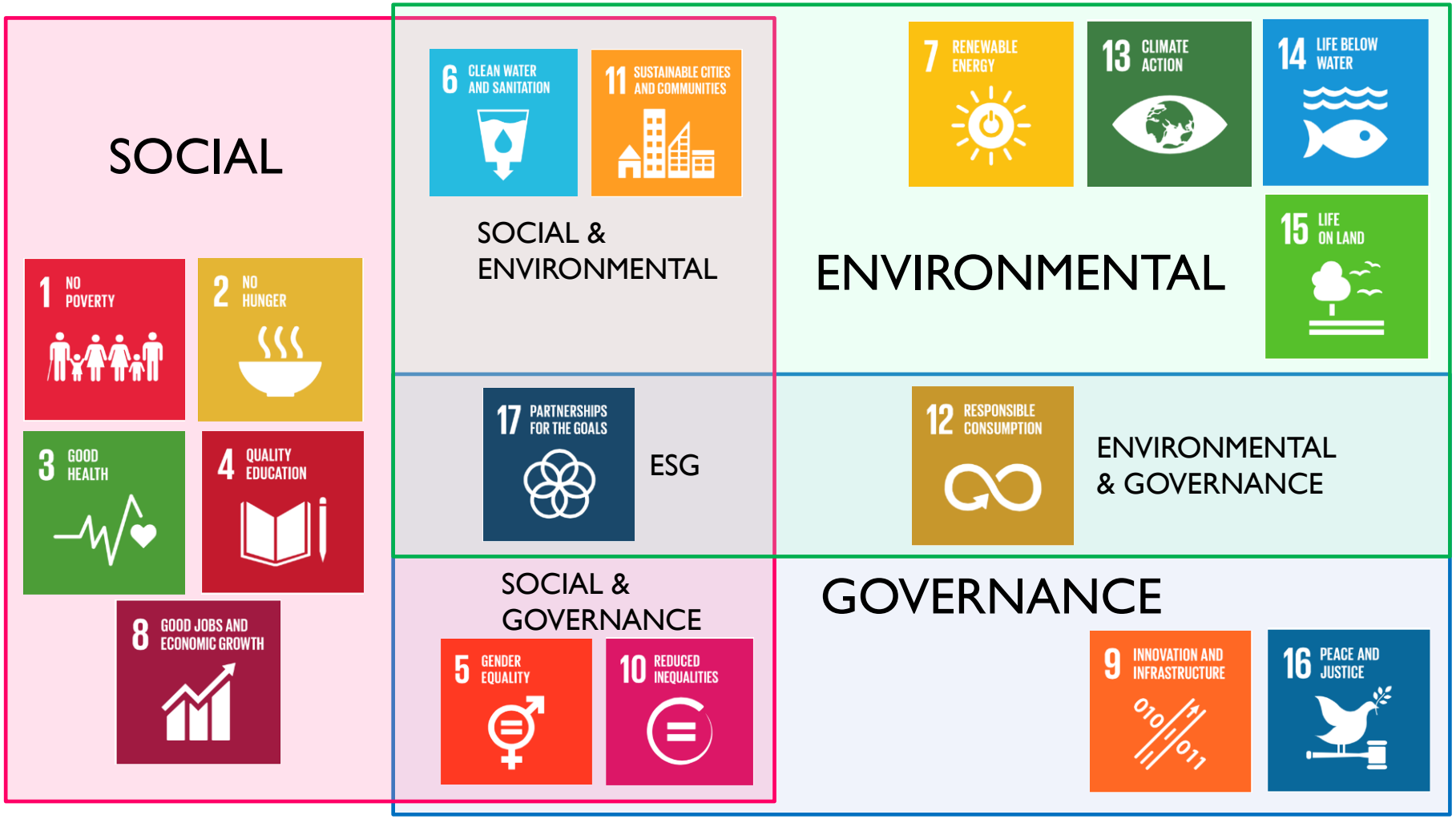
CHALLENGES IN APPLICATION SERVICE DESIGN



BENEFITS OF EA IN DIGITAL SERVICE DESIGN

Source: White Paper- Application Portfolio Management: Key Principles and Best Practices, 2020

SUSTAINABLE DEVELOPMENT GOALS (SDGS) & ENVIRONMENTAL, SOCIAL, AND GOVERNANCE (ESG)



"digital technologies offer unparalleled opportunities **to address the challenges of sustainable development** and provide new pathways for inclusive growth and environmental stewardship"

- World Economic Forum, 2018

"digital technologies can contribute **to the achievement of SDG** through the development of smart grids, digital healthcare solutions, and circular economy models "

- Global e-Sustainability Initiative (GeSI), 2020

"digital technologies such as blockchain and smart contracts can **improve supply chain transparency and traceability** "

- Accenture, 2020

DIGITAL TECH SUPPORTS ESG PRACTICES

10 COMMON ESG PRACTICES



Climate Change Mitigation: Adopting measures to reduce greenhouse gas emissions and address climate change risks, such as setting targets for carbon reduction and transitioning to renewable energy sources.

Diversity, Equity and Inclusion: Promoting diversity, equity, and inclusion within the organization, including gender, race, ethnicity, and other identities, by establishing policies and practices that ensure equal opportunities and fair treatment.

Supply Chain Management: Ensuring that the supply chain is environmentally and socially responsible, including identifying and addressing any negative impacts on workers, communities, and the environment.

Human Rights: Respect for human rights in all aspects of business operations, including issues such as child labor, forced labor, and human trafficking.

Corporate Governance: Ensuring strong corporate governance practices, including board independence, transparency, and accountability to shareholders.

Sustainable Products and Services: Developing and promoting sustainable products and services that have a positive impact on society and the environment.

Waste Reduction and Circular Economy: Adopting measures to reduce waste and promote a circular economy, such as reusing and recycling materials.

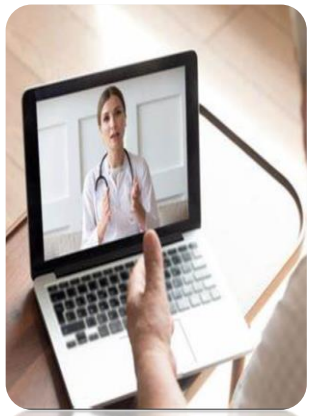
Employee Health and Safety: Ensuring a safe and healthy workplace for employees, including providing training and resources to prevent accidents and injuries.

Community Engagement: Engaging with local communities and supporting philanthropic initiatives that promote social and environmental causes.

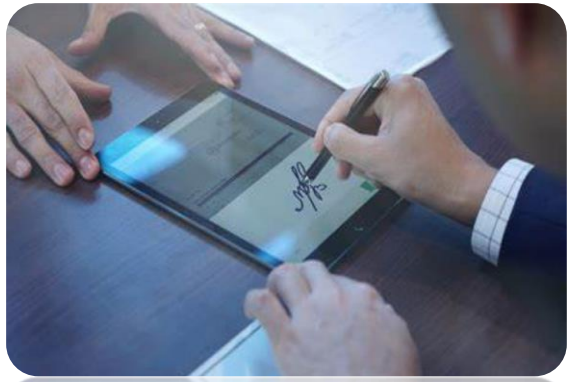
Anti-Corruption and Ethical Business Practices: Adopting policies and procedures to prevent corruption and bribery, including a strong code of ethics and compliance program.

EMBEDDING SUSTAINABILITY in IT SERVICE DESIGN

SEAMLESS
E2E Services



CONTACTLESS
Virtual



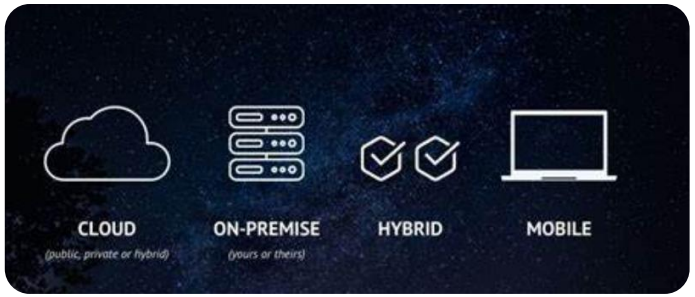
PAPERLESS
Digital Signature

CASHLESS
ePayment, eWallet

EMBEDDING SUSTAINABILITY in IT INFRASTRUCTURE DESIGN

Use energy-efficient hardware

Use virtualization and cloud computing



Platform deployments, utilization, and scaling

Use serverless computing
(web application, mobile backends, IoT applications, chatbots & VA, Data processing pipelines)

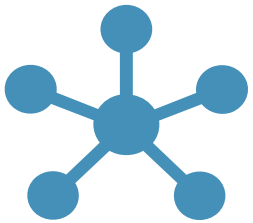
Use open-source software

DIGITALISATION IN ESG PRACTICES

Digitalisation can support ESG practices by enabling organisation to :

- **collect, manage, and analyse data**
- **increase transparency and traceability**
- **optimize resource usage**
- **develop sustainable products and services**
- **engage with stakeholders**

ESG PRACTICES VS DIGITALISATION



Data Management

ESG data collection, analysis, and reporting

Digital tools can help collect, manage and analyse ESG data, making it easier to identify ESG risks and opportunities, measure ESG performance, and report on progress

Supply Chain Transparency

Human rights and environmental risk identification and mitigation

Digital technologies, such as blockchain, can provide greater transparency and traceability across the supply chain, helping to identify and mitigate risks related to human rights, environmental impact, and other ESG factors

Environmental Monitoring

Environmental impact measurement and mitigation

Digital sensors and monitoring tools can help companies monitor and analyse environmental impact, such as air and water quality, allowing them to identify potential environmental risks and take proactive measures to mitigate them

ESG PRACTICES VS DIGITALISATION

Sustainable Products and Services

Social and environmental impact reduction

Digitalisation can support the **development and delivery of** sustainable **products and services**, such as online marketplaces for goods, energy management software, and smart grid technologies

Energy Efficiency

Climate change mitigation, Resource conservation

Digitalisation can help companies **optimize energy usage and reduce waste** through sensors, automation, and artificial intelligence, resulting in significant energy and cost savings

Remote Work and Mobility

Emissions reduction, work-life balance, health and safety

The **adoption of digital tools** can support remote work and mobility, reducing the need for travel and associated emissions, and enabling employees to work more efficiently and flexibly

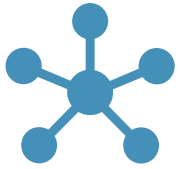
Stakeholder Engagement

Engagement with stakeholders on ESG issues

Digital platforms can facilitate stakeholder engagement, providing a way for companies to communicate with customers, employees, investors, and other stakeholders, and solicit feedback on ESG performance and initiatives

SUSTAINABLE IT ARCHITECTURE : SMART BUILDING

The Edge, headquarters of Deloitte in Amsterdam, Netherlands, which is one of the **greenest and smartest office buildings** in the world. **The Edge is a light, bright and app-controlled building with a large atrium as its nucleus**.



Data Management

ESG data collection, analysis, and reporting

Environmental Monitoring

Environmental impact measurement and mitigation

Sustainable Products and Services

Social and environmental impact reduction

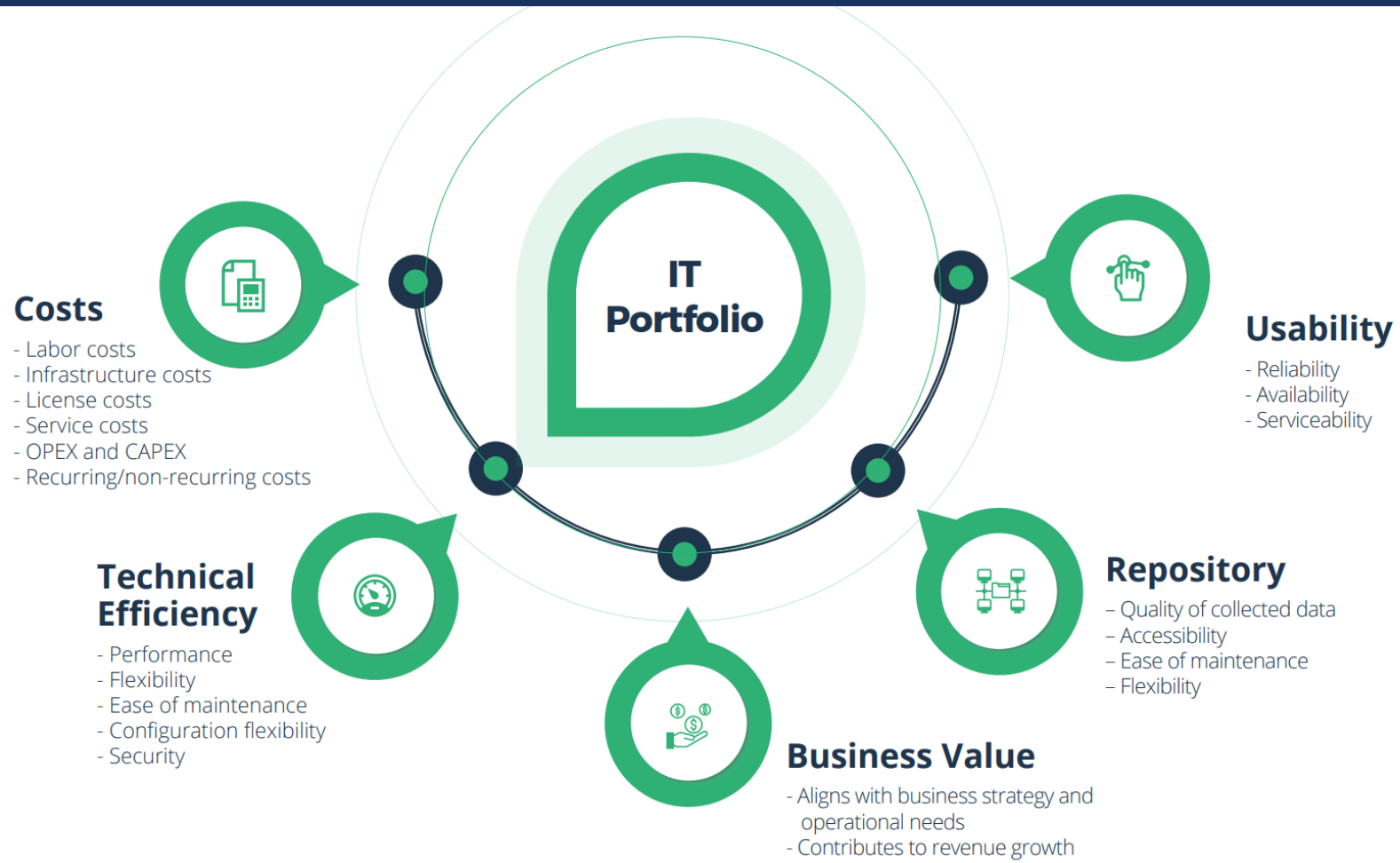
Energy Efficiency

Climate change mitigation, resource conservation

EA FOUNDATION :APPLICATION PORTFOLIO MANAGEMENT

Embedding ESG considerations into the **service design** and **IT architecture** can help ensure that **digital solutions** are developed in a sustainable and responsible way

Embedding ESG considerations into the service design and IT architecture requires a **holistic and integrated approach** that considers the **full lifecycle of the digital solution**, from development to end-of-life



Source: White Paper- Application Portfolio Management: Key Principles and Best Practices, 2020

THANK YOU

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