

DIGITAL ECOSYSTEM

upholding the concept of
WHOLE-OF-GOVERNMENT



WEBINAR PERJASA 2020

**18 MEI 2020
2.30 PETANG**

WEBEX

OLEH:

DR. SITI ISTIANAH MAHDZUR

**SME Pengurusan Strategik ICT
EA Arkitek Sektor Awam
Certified TOGAF® 9.1, COBIT®5,
CITA-A (Solution Architect, Business Architect,
Business Technology Strategy)
CITA-F (IT Architecture Core)**

EKOSISTEM DIGITAL
dalam konsep
WHOLE-OF-GOVERNMENT



WOG

WHOLE-OF-GOVERNMENT

Whole-of-Government denotes **public services agencies working across portfolio boundaries** to achieve **a shared goal** and **an integrated government** response to particular issues [Christensen et al 2007]

WoG—a comprehensive way to **assemble resources and expertise from multiple agencies** and groups to **address problems with interrelated social, economic, and political causes.**

- Deloitte -

a global trend to change silo-based structures, disaggregation, and sectorial divide towards a more **integrated approach** to increasingly **complex and multi-dimensional public service delivery**

SmartGov Singapore

“

Whole-of-Government (WoG) menggambarkan perkhidmatan digital bersepadu dan terangkum dengan berfokuskan keperluan serta ekspektasi rakyat merentasi keseluruhan spektrum kluster perkhidmatan awam.

MAMPU - MyGovEA

”

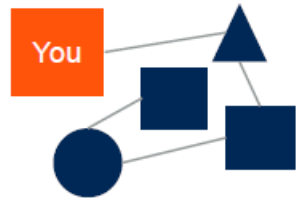
FIVE COMMON TYPE OF DIGITAL ECOSYSTEM

| YOUR ENTERPRISE'S ECOSYSTEM | WITHIN YOUR INDUSTRY ECOSYSTEM | BUSINESS MODEL ECOSYSTEM | CROSS-INDUSTRY ECOSYSTEM | ECOSYSTEMS WHERE EVERYONE PARTICIPATE |
|-----------------------------|--------------------------------|--------------------------|--------------------------|---------------------------------------|
| Ego-System | Industry Ecosystem | Platform Ecosystem | Eco-stry | Eco-poly |



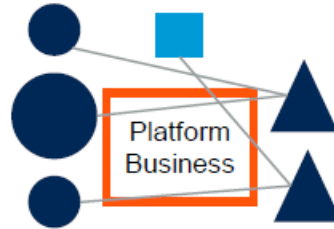
Ecosystem consisting of suppliers, customers, partners — that are all focused on improving YOUR enterprise.

e.g., OEM supply chain, vendor/partner ecosystem



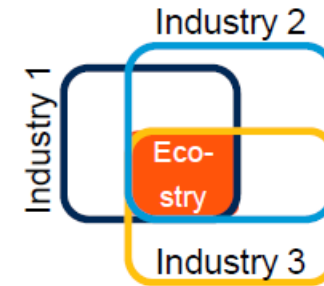
This ecosystem promotes interchange between industry players and is open to all, or just a private group. Participation can be optional (driven by value) or regulatorily enforced.

e.g., Open banking or industry consortia



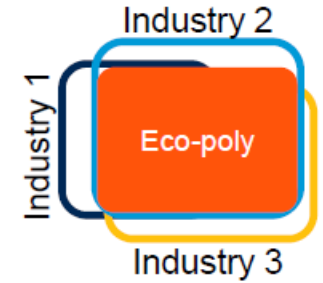
A type of ecosystem created by a platform business. Interchanges between participants are monetized, directly or indirectly. Value is created and exchanged by all.

e.g., Digital marketplace



An ecosystem made up of multiple industries that have a convergence point such as a common customer or shared goal.

e.g., Patient-centered ecosystem, mobility or logistics ecosystem



Exists when a single platform creates market forces so powerful that participants have little choice but to transact and interact through the platform.

e.g., Digital giants

DIGITAL ECOSYSTEM FRAMEWORK

NATIONAL GOALS

(Sustainable Development Goals & Shared Prosperity Vision 2030)

DIGITAL ECONOMY

Data Monetization

Building Digital Trust

Speed of Technology Adoption

Ethics in e-Business

PLAYERS

Government

Industry

Academia

Citizen/Civil Society

DIGITAL GOVERNANCE

Policy, Regulations & Standard

Structure (Implementation & Coordination)

Strategic Intent

DIGITALISATION STRATEGY

DIGITAL GOVERNMENT FOCUS AREA

ORGANISATION

- Intra/inter-agency
- Roles & responsibility
- Digital Player
- Industry

PEOPLE

- Analytic Skills
- Digital Leaders
- Data Science
- Chief Data

DIGITAL SERVICES

- End-to-end
- WoG
- Integrated
- Seamless
- Data Driven Services

TECHNOLOGY

- Infrastructure
- Security
- Data Management
- Interoperability

INVESTMENT

- Public-private partnership
- Business value

GOVERNANCE PRINCIPLE

ACCOUNTABILITY

PARTICIPATIVE

RESPONSIVE

EFFICIENT

CONCERN ORIENTED

TRANSPARENCY

INCLUSIVE

EFFECTIVE

EQUITABLE

FOLLOW THE RULE OF LAW

ENABLING ENVIRONMENT

ORGANISATIONAL INTEROPERABILITY

DIGITAL SERVICES

DATA MANAGEMENT

SKILLS & TALENT

EMERGING TECHNOLOGY

SECURITY

Digital ecosystem framework designed to show the **interrelationship** between **digital economy values** and **digital government focus area** in the digital ecosystem

Source : *Digital Governance for Sustainable Digital Ecosystem* by MAMPU



EKOSISTEM PERKHIDMATAN AWAM meliputi perkhidmatan oleh **kementerian, agensi persekutuan; Kerajaan negeri dan pihak berkuasa tempatan** serta perkhidmatan yang disediakan oleh **entiti-entiti lain yang terletak di bawah kawalan kementerian/jabatan tertentu.**

EKOSISTEM PERKHIDMATAN AWAM adalah sistem yang melibatkan **ekosistem perkhidmatan dalam sektor kerajaan** merangkumi **sektor ekonomi, sosial, keselamatan dan pentadbiran awam.**

Ekosistem Perkhidmatan

Sistem **perkhidmatan kerajaan** yang merangkumi **kluster perkhidmatan awam** di bawah sektor ekonomi, sosial, keselamatan dan pentadbiran awam.

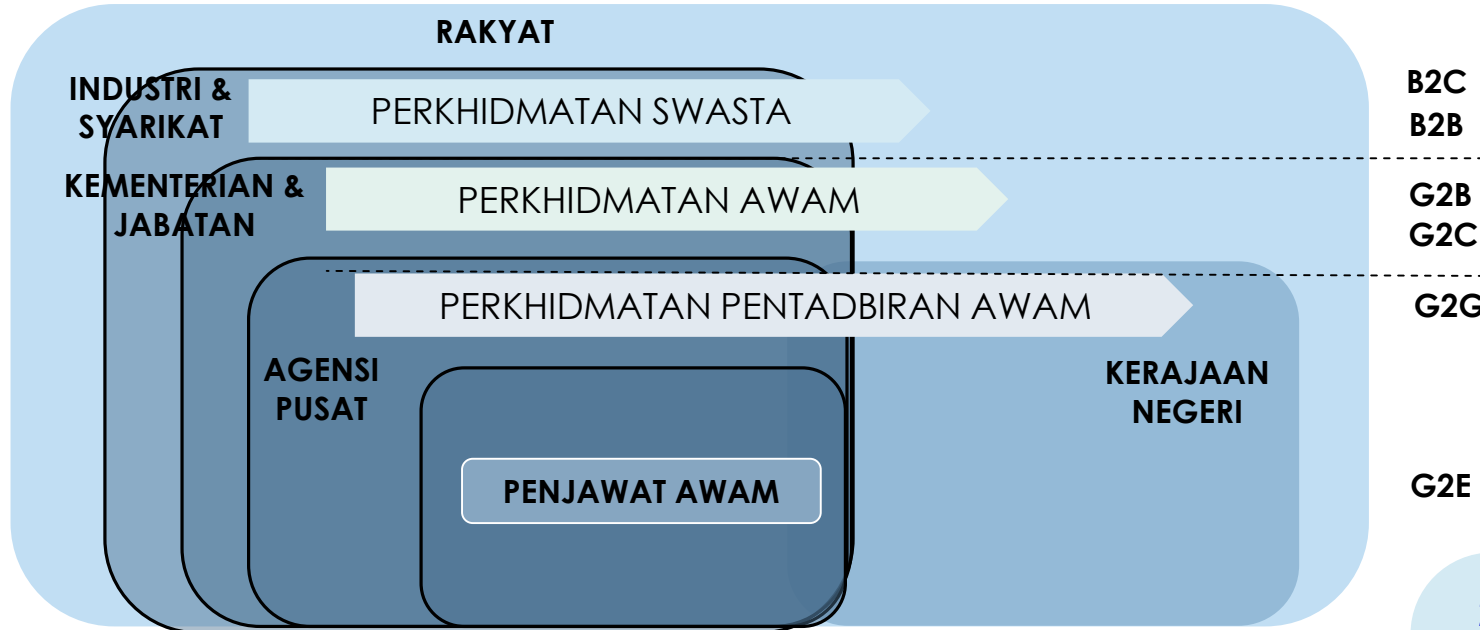
Ekosistem Organisasi

Sistem yang melibatkan **interaksi antara elemen organisasi** merangkumi **struktur, proses, perkhidmatan, sumber, aplikasi dan teknologi** untuk mencapai matlamat organisasi.



Sumber : Pekeliling Kemajuan Pentadbiran Awam Bil. 1 Tahun 2020 : MyGovEA: Pelaksanaan Pendekatan Reka Bentuk Berstruktur Ekosistem Organisasi Perkhidmatan Awam

EKOSISTEM PERKHIDMATAN AWAM



4 SEKTOR
18 KLUSTER PERKHIDMATAN

6 Kluster di bawah SEKTOR EKONOMI

1. Pertanian
2. Perdagangan dan Industri
3. Pengangkutan
4. Tenaga dan Utiliti Awam
5. Penyelidikan dan Pembangunan
6. Komunikasi

2 Kluster di bawah SEKTOR KESELAMATAN

1. Internal Security / Keselamatan Dalam Negeri
2. Defence/ Pertahanan

3 Kluster di bawah SEKTOR PENTADBIRAN AWAM

1. Pengurusan Kewangan
2. Pengurusan Sumber Manusia
3. Pentadbiran Am

7 Kluster di bawah SEKTOR SOSIAL

1. Kesihatan
2. Pendidikan dan Latihan
3. Kebudayaan, Belia dan Sukan
4. Perumahan
5. Kerajaan Tempatan dan Pembangunan Kesejahteraan
6. Maklumat dan Penyiaran
7. Pembangunan Komuniti dan Desa

Penerangan:

G2E – Gov to Employee G2G – Gov to Gov G2C – Gov to Citizen G2B – Gov to Business
 B2B – Business to Business B2C – Business to Citizen

“Digital Government”: Malaysia’s context

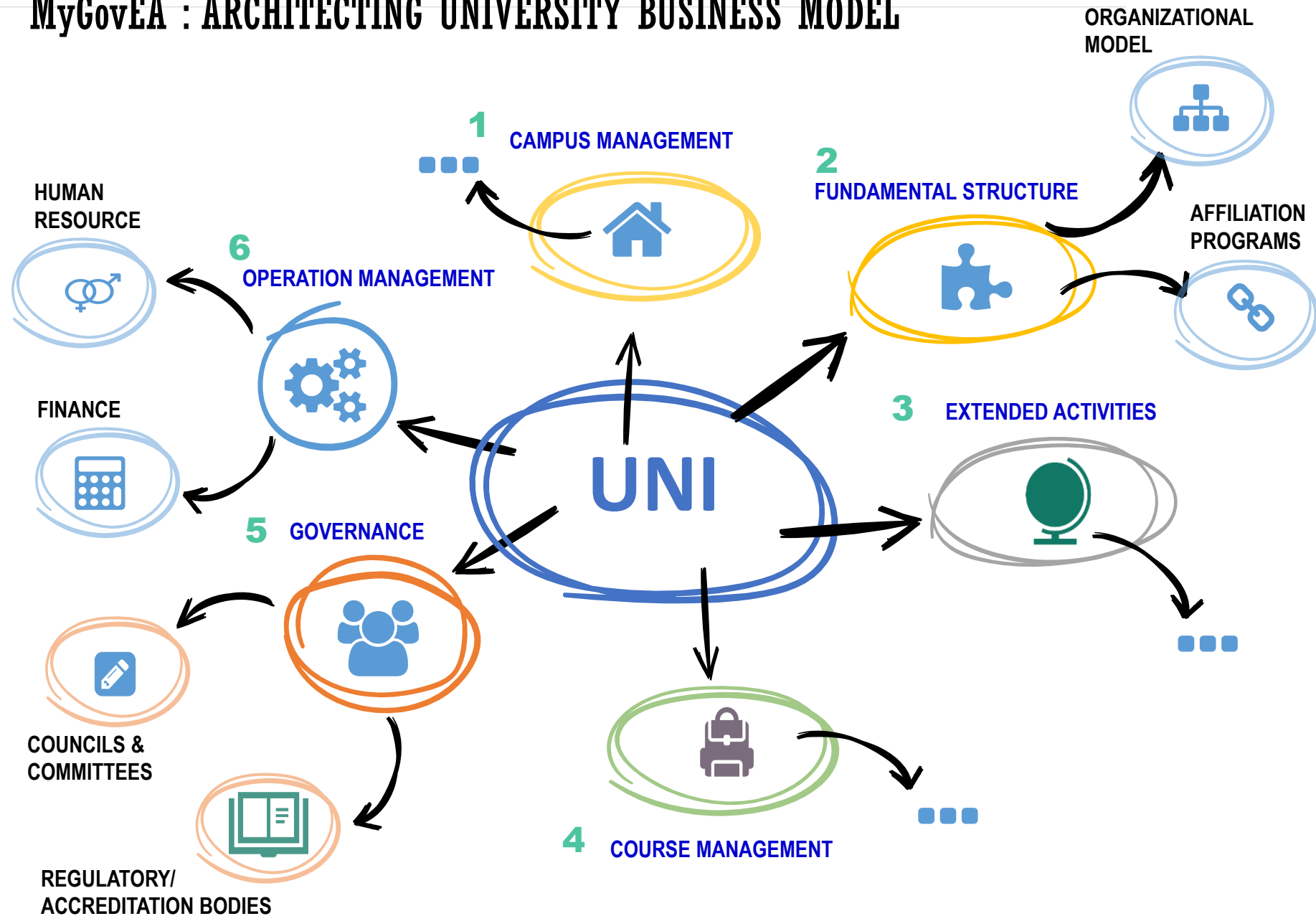


GOVERNMENT DESIGNED AND OPERATED TO TAKE ADVANTAGE OF DIGITAL DATA

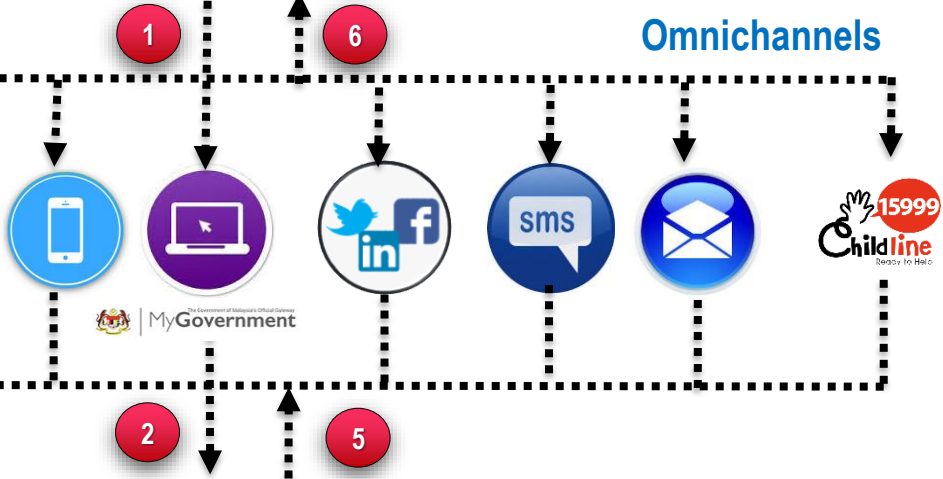
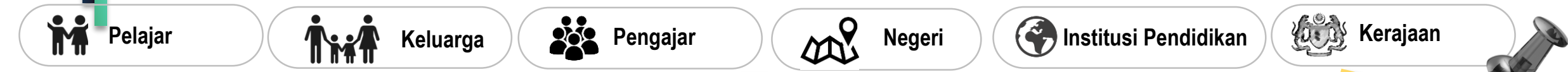
as an integrated part of governments’ modernisation strategies to create public value that improve citizen satisfaction in service delivery, enhance economic competitiveness, forge new levels of engagement and trust, and increase productivity of public services.

Digital Government facilitates digital economy through its policy, that will **create demand for the industry**, to foster links between government and industry and to eliminate market failures, build expertise, provide services, and for the adoption of emerging technologies in various sectors

MyGovEA : ARCHITECTING UNIVERSITY BUSINESS MODEL



BUSINESS MODEL PENGURUSAN MURID



- Kategori Pelajar:**
- Pelajar Pintar
 - Pendidikan Khas
 - Pra Sekolah
 - Pelajar Sekolah Rendah
 - Pelajar Sekolah Pondok
 - Tiada Pendidikan Formal



KPM & JPN

REKOD KESIHATAN

- Health Education
- Morale education
- Mental health

REKOD PERSEKOLAHAN

Islamic School
Formal School

REKOD PELAJAR

- Child Info

REKOD JENAYAH

Case report

REKOD KELUARGA

Family Info

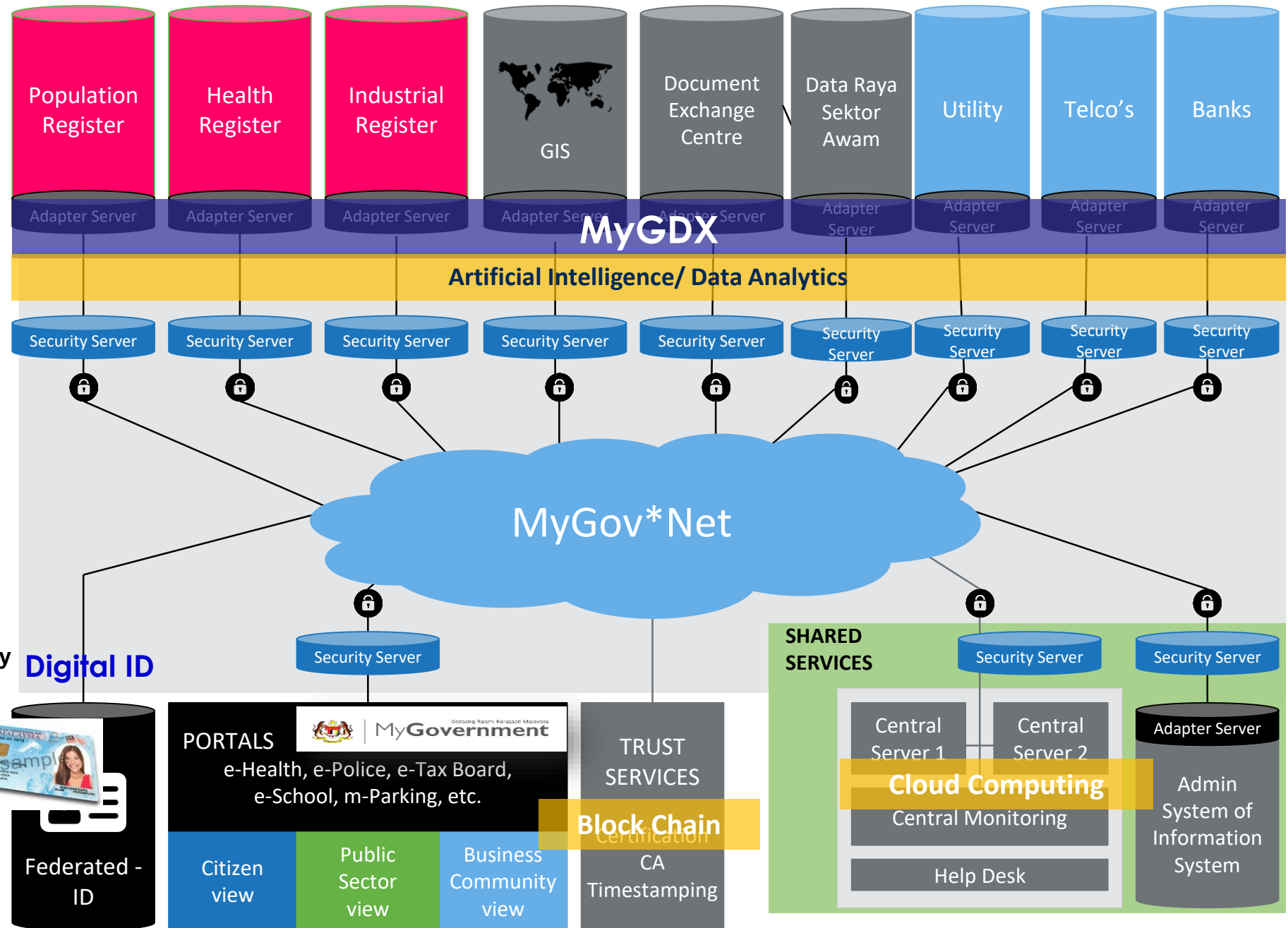
REKOD KOKURIKULUM

Sport & talent

MyGDX
Malaysian Government
Central Data Exchange



Gambaran Architecture Perkhidmatan Kerajaan Masa Hadapan



Pelan Induk MyGovEA



Metodologi MyGovEA



Model Rujukan & Gov-Wide Reference Architecture



Portal Mygovea.mampu.gov.my



Repositori Mygovea.gov.my



PORTALS
e-Health, e-Police, e-Tax Board, e-School, m-Parking, etc.

TRUST SERVICES
CA
Timestamping

Block Chain
Certification

Citizen view | Public Sector view | Business Community view

SHARED SERVICES

Central Server 1 | Central Server 2

Cloud Computing
Central Monitoring
Help Desk

Adapter Server
Admin System of Information System

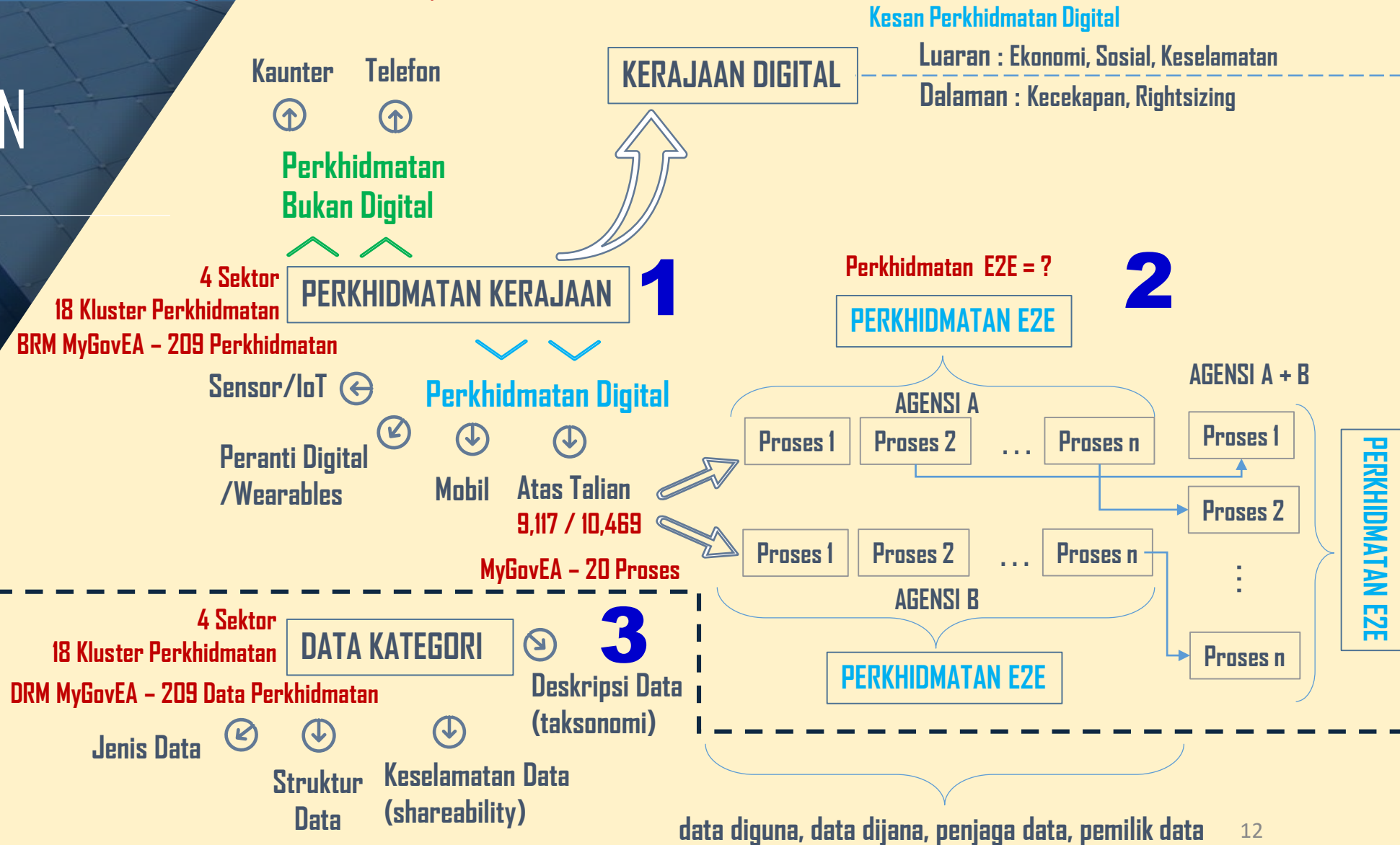
STRATEGI : Government Wide Architecture

Horizontal Solution | Standardization | Public Service Architecture View

PERKHIDMATAN

DATA

1. Definisi Perkhidmatan
2. Bilangan Perkhidmatan
3. Kategori dan pemilik/ penjaga data



Nota:
 Rightsizing = Menyesuaikan saiz perkhidmatan awam
 BRM = Business Reference Model
 DRM = Data Reference Model

VERTICAL SERVICES

(Cth. Business case : Bekalan Makanan Negara)

DOMAIN BUSINES:

SEKTOR : **EKONOMI**

SUB SEKTOR : **PERTANIAN & PERDAGANGAN**

PERKHIDMATAN SUB SEKTOR : **BEKALAN MAKANAN NEGARA**

DOMAIN ARKITEKTUR : **PERTANIAN**

HORIZONTAL SERVICES (COMMON SERVICES)

ARCHITECTURE : 20 PROCESS COMMON SERVICES

MyGovEA - 20 Proses

Common Services:

1. Register/ **Pendaftaran**
2. Inspect / **Pemeriksaan**
3. Approve /Authorize / Endorse / **Kelulusan**
4. Appeal/ Contest/ Grievance / **Rayuan**
5. Archive /Retrive/ Search / **Carian**
6. Distribute/ Circulate/ Broadcast/ **Pengedaran**
7. Alert/ Notify/ inform/ **Pemakluman**
8. Record/Report / **Melapor**
9. Verify/ Check / **Semakan**
10. Deliver / **Penghantaran**
11. Acknowledge/ Respond / **Maklumbalas**
12. Assess/ Evaluate/ Monitor/ **Pemantauan**
13. Certify / **Pengesahan**
14. Modify/Revise/Correct / **Semakan semula**
15. Pay/Disburse / **Pembayaran**
16. Collect/ Return / **Kutipan**
17. Issue/Re-issue / **Penyerahan**
18. Allocate/ Assign / **Pemberian**
19. Generate / **Cetakan**
20. Identify / **Pengesahan**

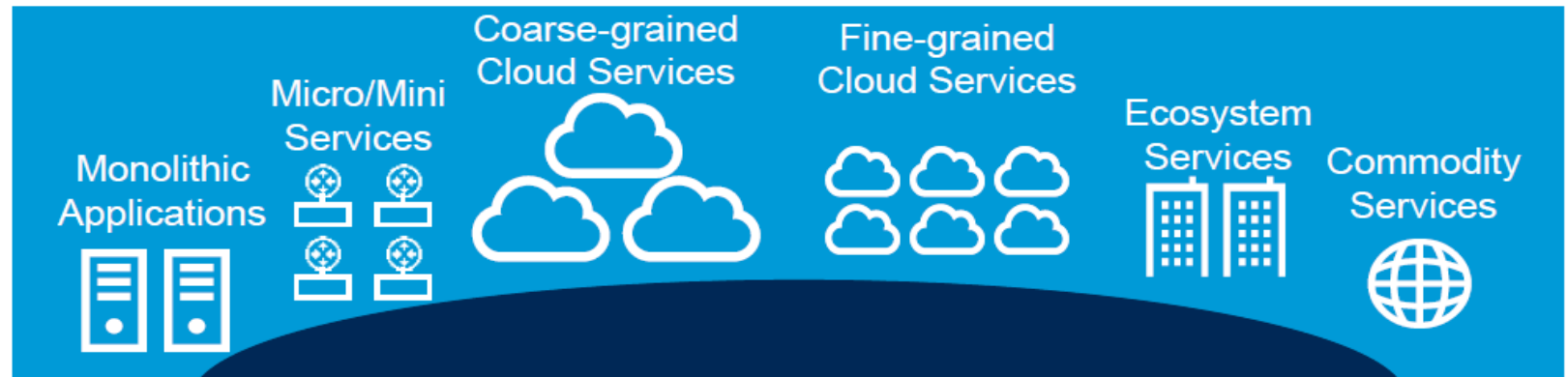
STRATEGI : Government Wide Architecture

Horizontal Solution | Standardization | Public Service Architecture View

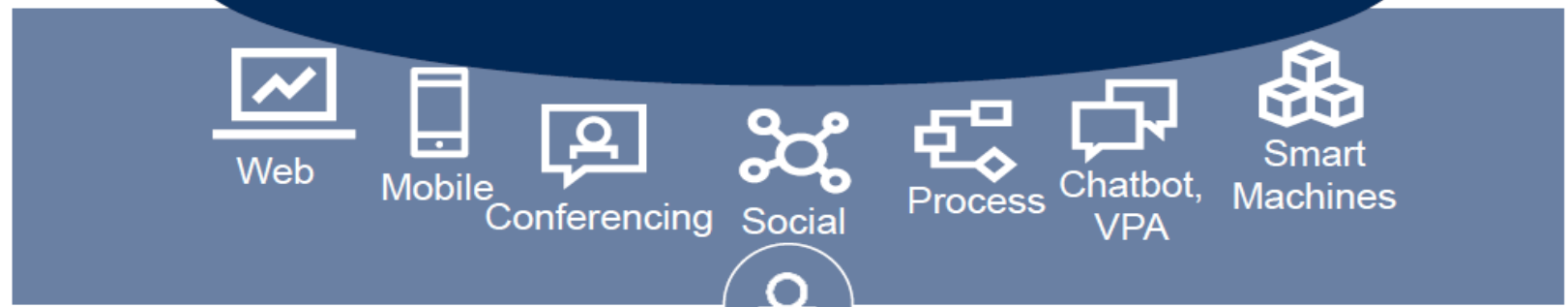
Integration is about making different applications and data structures (internal and external to your organization) to work together

The Future of Applications Is ... Integration!

Packaged Business Capabilities



Hybrid Integration Platform



Application Experiences

Gartner

APLIKASI

TEKNOLOGI

STRATEGI : Government Wide Architecture

Horizontal Solution | Standardization | Public Service Architecture View

- Architecture and Technology
- Functional Requirements
- Non-functional Requirements
- Governance Delivery Model Skills

The Future of Application Entails a Pervasive, Multifaceted Integration Challenge ...

Democratized Access

Integration Specialists



"Ad Hoc" Integrators

Citizen Integrators



Digital Integrators

Expanding Integration Scenarios



Application



Data



APIs



Ecosystems/B2B



Process/RPA



Events

Proliferating Fragmented Endpoints

On-Premises



Cloud

Mobile



Things

Hybrid Deployment and Operating Models



(Multi)Cloud



Embedded



On-Premises



Hybrid



Outsourced

APLIKASI

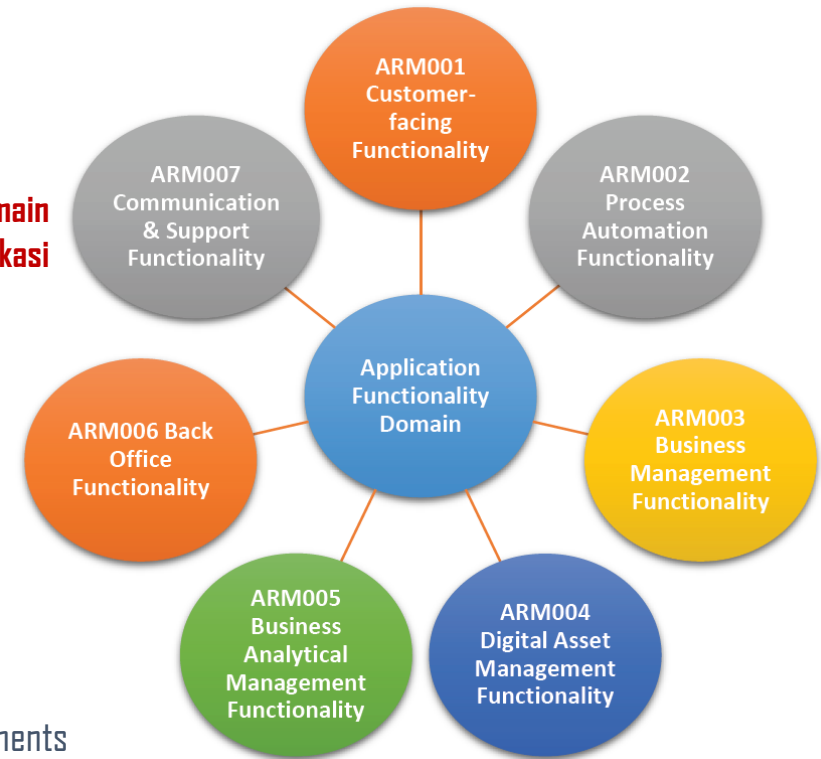
TEKNOLOGI

STRATEGI : Government Wide Architecture

Horizontal Solution | Standardization | Public Service Architecture View

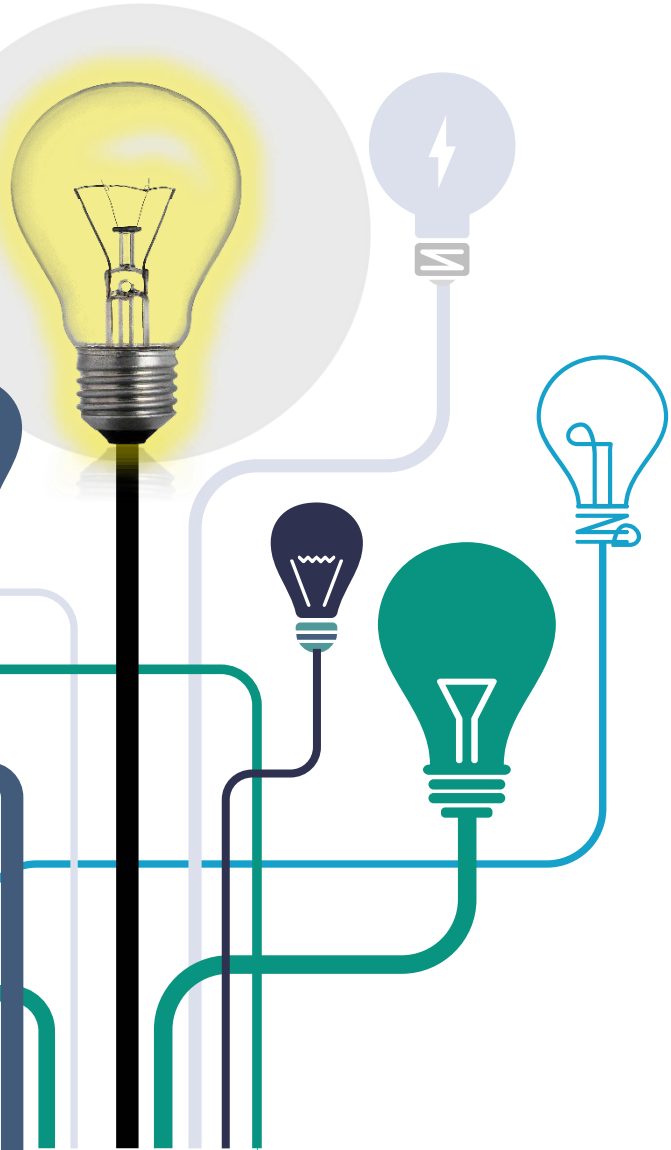
Nota:
ISET = Integration Strategy
Empowerment Team
ARM = Application Reference Model

1. Profil/Portfolio Aplikasi
2. Strategi Integrasi
3. Integrasi Domain Aplikasi



APLIKASI

TEKNOLOGI



“ organisasi mengenal pasti dan **memperkemas semula perkhidmatan yang disediakan** dengan memahami struktur, fungsi, perkhidmatan, proses kerja, data yang digunakan serta aplikasi dan teknologi yang menyokong perkhidmatan organisasi “

Pendekatan MyGovEA merupakan pemudah cara untuk melaksanakan **penjajaran strategi dan teras perkhidmatan kerajaan berlandaskan prinsip saling kendali (interoperability) dan WoG**. Selain itu, MyGovEA juga dapat meningkatkan kecekapan pengurusan pentadbiran kerajaan serta perkhidmatan sepunya (common services) yang menyokong integriti transaksi dan komunikasi merentas agensi..

Reka bentuk Perkhidmatan Digital

1. Reka bentuk Penyelesaian perkhidmatan Digital
2. Pengurusan dan Tadbir urus Data
3. Reka bentuk Aplikasi (Reusable & Integrated)
4. Reka bentuk Teknologi (Shared services, secured & adoption 4thIR technology)

Soalan ‘Transformasi Digital’

1. Apakah perkhidmatan Agensi?
2. Apakah data yang dimiliki dan dijaga oleh Agensi?
3. Integrasi aplikasi Agensi dengan sistem luar
4. Penggunaan Teknologi Kerajaan - Shared Services

CABARAN SEMASA



1 PERKHIDMATAN DIGITAL

Kerajaan Digital



2 PEKERJA INOVATIF

Cara Pemikiran Baharu



3 TEKNOLOGI DISRUPTIF

Media Sosial, Analitik Data Raya, Mobiliti, Pengkomputeran Awan, Internet Benda, Kecerdasan Buatan



EA sebagai kaedah mengurus **PERUBAHAN ORGANISASI** dalam merancang strategi dan mengemukakan cadangan penyelesaian

‘sinergi manusia, perkhidmatan teras dan **benda** dalam ekosistem digital dapat dikoordinasikan menerusi penyediaan platform yang dapat menawar dan memperkasa nilai perkhidmatan yang disediakan’

- Gartner -

‘kerajaan bertindak untuk **menambah baik pendekatan strategi, pengurusan organisasi dan arkitektur perkhidmatan awam** supaya lebih cenderung kepada inovasi dan transformasi digital dalam membangunkan perkhidmatan digital’

- Blueprint MyGovEA -

PRINSIP PENYELESAIAN PERKHIDMATAN DIGITAL

Membudayakan perkhidmatan digital dalam kehidupan rakyat

Menggambarkan secara holistik bagaimana sesebuah organisasi berfungsi dan memberi perkhidmatan

Memanfaatkan secara menyeluruh penggunaan teknologi maklumat merangkumi aspek komunikasi, sosial dan transaksi

Mengaplikasikan pemikiran secara *architectural* iaitu berfikir secara menyeluruh mengambil kira perubahan sesuatu akan memberi impak terhadap yang lain

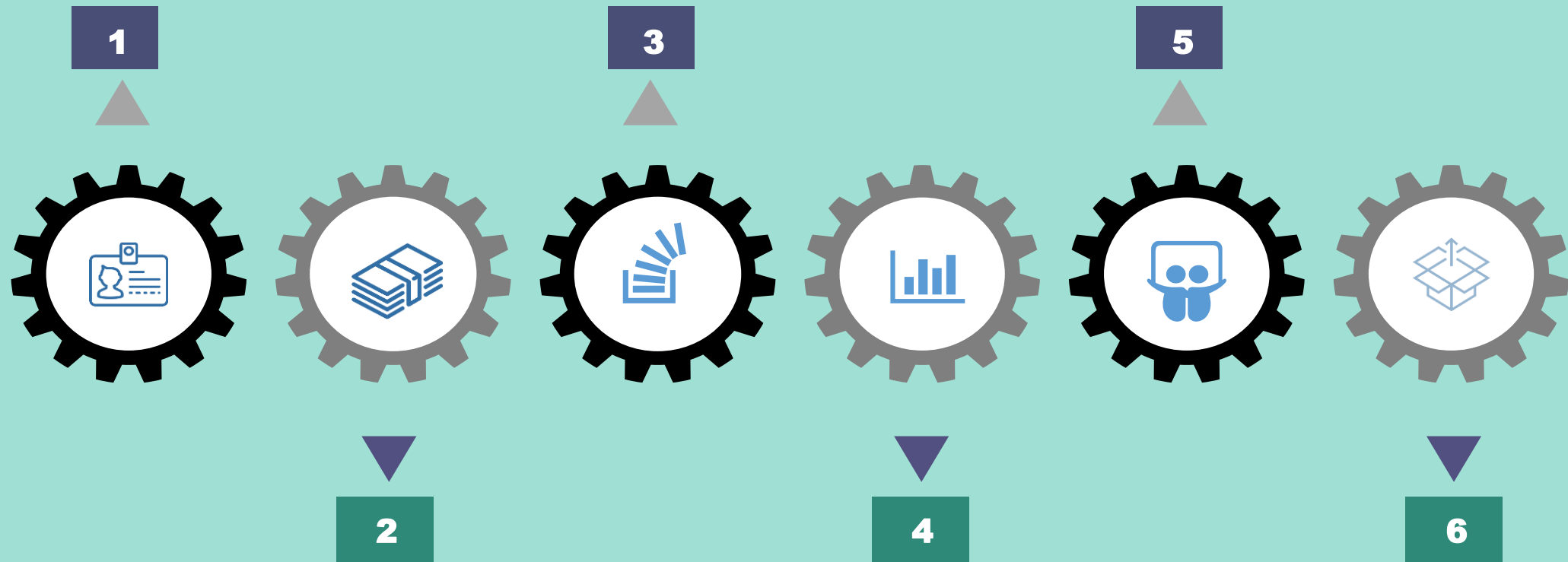
Mewujudkan *single view* bagi keseluruhan persekitaran agensi yang menerangkan hubung kait antara pelbagai perkhidmatan agensi, proses penyampaian perkhidmatan, dan sumber manusia

FAEDAH PENDIGITALAN BERTERASKAN WOG

Perancangan strategik yang lebih **menyeluruh dan inklusif** terhadap penggunaan teknologi digital

Meningkatkan keupayaan agensi sektor awam dalam **perkongsian maklumat/data**

Pemetaan **keupayaan sumber manusia dan program** pembangunan keupayaan yang sesuai



Mengurangkan pembangunan projek ICT secara silo

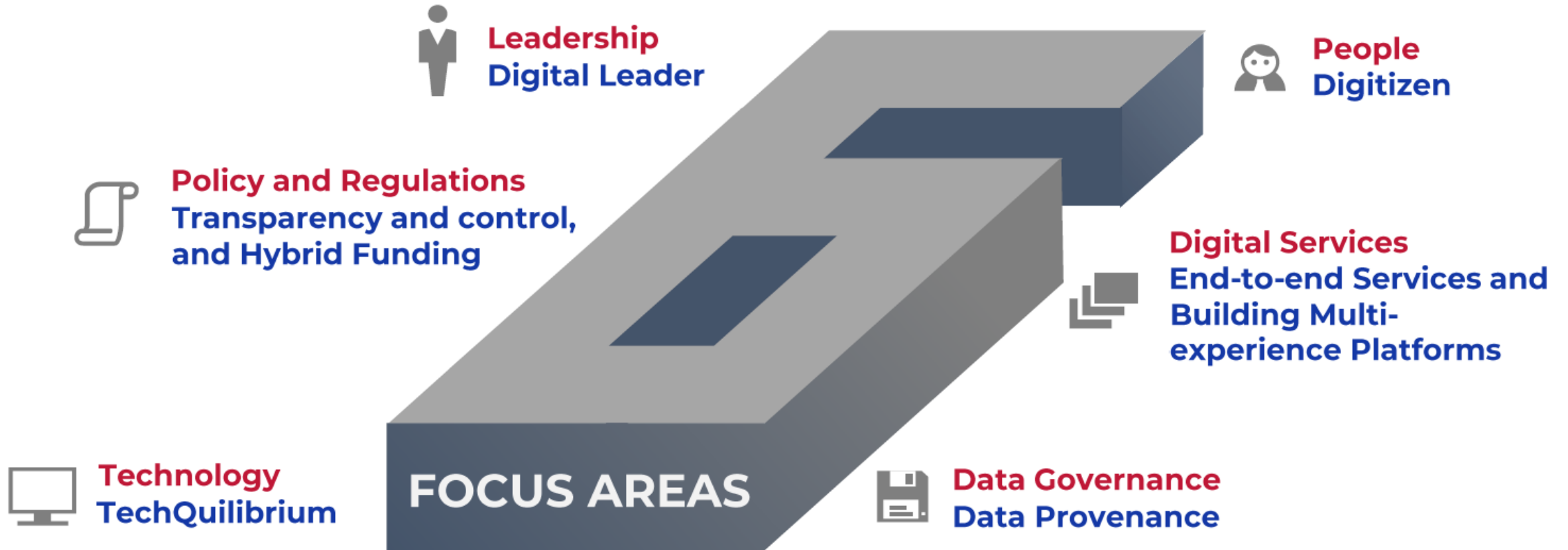
Meningkatkan **akses maklumat/data terbuka** kerajaan oleh pelanggan (industri, akademik dan rakyat)

Peluang **mengintegrasikan perkhidmatan awam secara end-to-end** dan potensi inovasi perkhidmatan awam baharu

CHALLENGES OF DIGITALISATION



Challenges & Opportunities



The “Everything Customer” wants to be served from any device, at any time - seamlessly



Touch



Gesture



Emotion



Location



Voice



Eye-tracking



Mobile



Wearable



Shopping



Travel



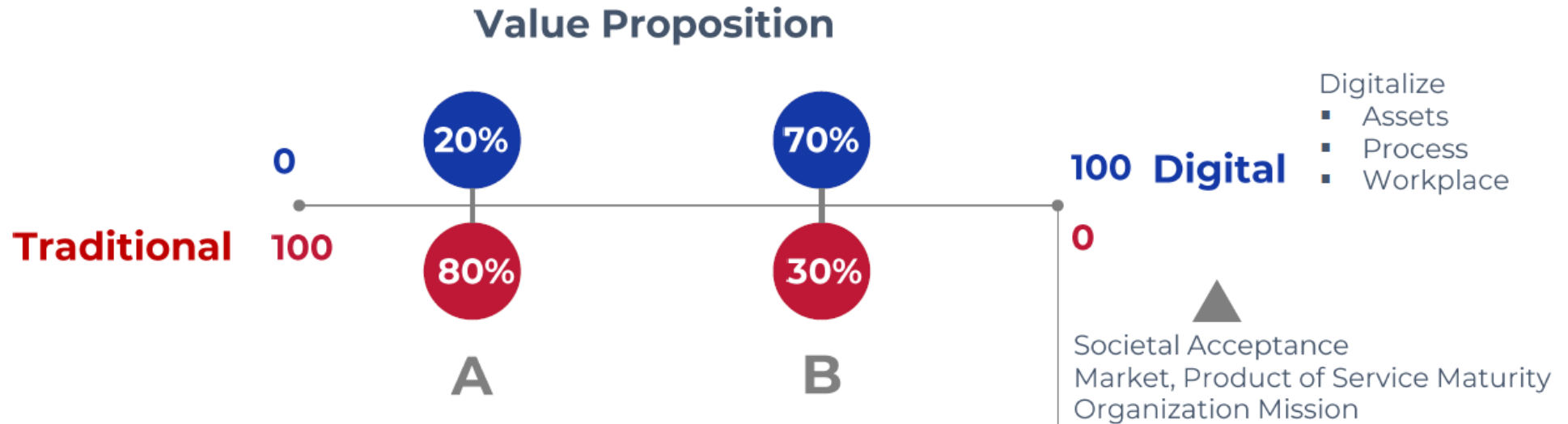
Work

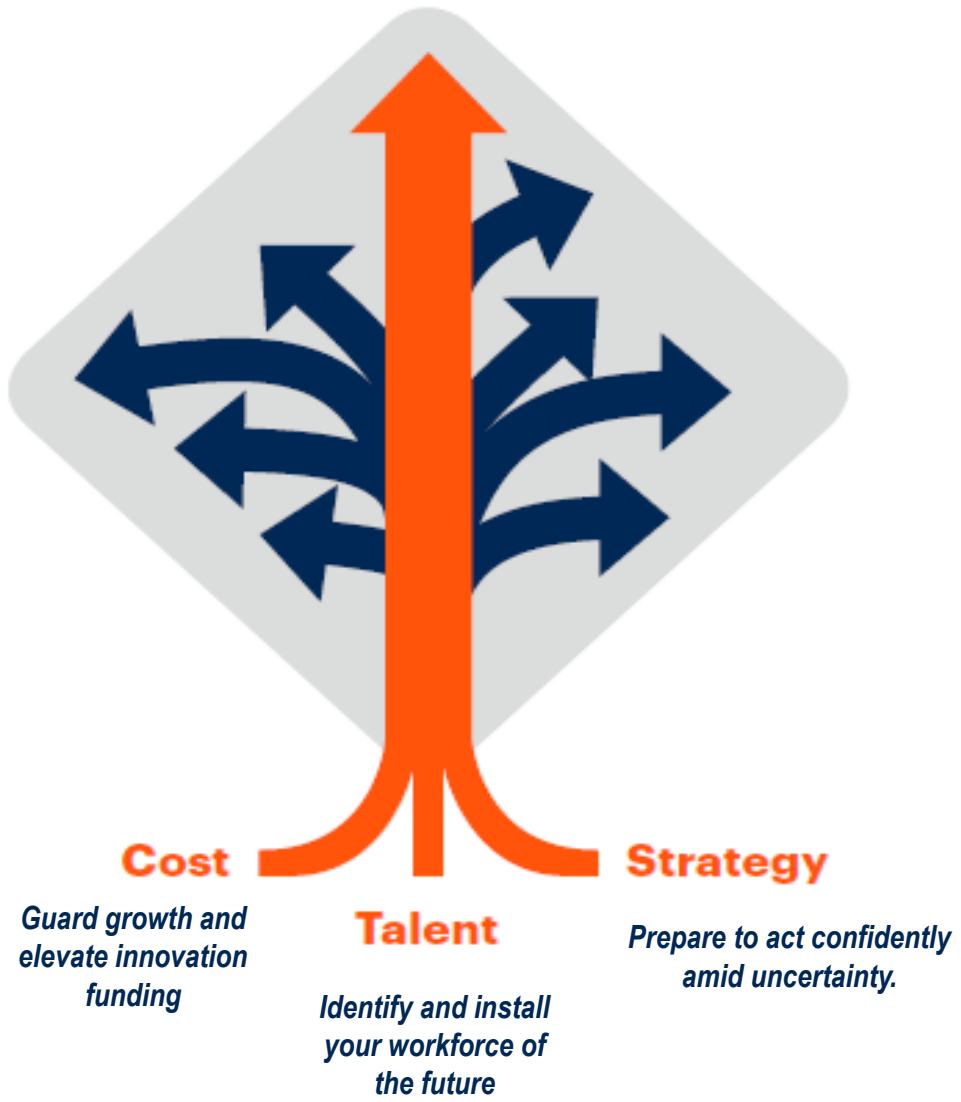


Home

TechQuilibrium: Find The Right Balance

TechQuilibrium increases the **Value Proposition of Government**





Strategy, Cost and Talent are the three pillars for winning the CHALLENGES OF DIGITALISATION




 Barcelona, Spain

 3 – 8 November 2019

Strategy

Strategy must be agile, clear and actionable



3

Questions **CIO** should ask :

1. Do we have the **ability to appropriately sense and respond to changes in the business context** as they happen?
2. Can we **create a minimum viable IT strategy** that **reduces the initial time and effort** required and allows **execution to start earlier**?
3. Have we **communicated any changes to our IT strategy**, their impact and the reasons behind them to **ensure clarity of direction** is maintained **across the enterprise**?

Cost

Practice cost optimization, as opposed to cost cutting



*Guard growth and
elevate innovation
funding*

3

Questions **CIO** should ask :

1. What do we need to do to achieve the **right level of IT financial transparency** to **support our cost-related decisions**?
2. How can we best **engage business stakeholders** in discussions about **opportunities to shift IT investments**?
3. How can we **better utilize existing IT resources**?

Talent

Reorient talent programs and services to align with the future direction

High performing teams that show the importance of combined business acumen and ability to act



Talent

*Identify and install
your workforce of
the future*

3

Questions **CIO** should ask :

1. What is our **minimum IT staffing level**?
2. Are our **IT resources aligned to** where the **business will be investing**?
3. Does **IT leadership recognize** that the **quest for talent** does not switch on and off as economic cycles change?



TERIMA KASIH

Maklumat yang dipaparkan dalam slaid ini adalah hakmilik Unit Pemodenan Tadbiran
Dan Perancangan Pengurusan Malaysia (MAMPU)
Jabatan Perdana Menteri
Sebarang salinan hendaklah mendapat persetujuan dan kelulusan MAMPU



www.mampu.gov.my



[mampujpm](https://www.facebook.com/mampujpm)



[mampujpm](https://twitter.com/mampujpm)



[mampujpm](https://www.instagram.com/mampujpm)