

A vertical decorative panel on the left side of the slide. It features a blue background with a network of white lines and nodes, overlaid with binary code (0s and 1s) in various shades of blue and white. A solid red vertical bar is positioned to the right of the decorative panel, partially overlapping the main white area.

# Air Gapping: The Slowest Gear in Digitalization

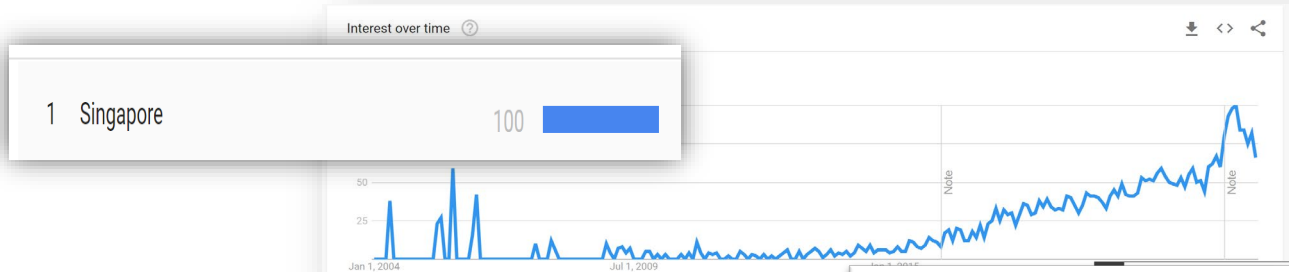
Dr. Fulvio Arreghini – Head of International Sales

GovWare 22 conference

Singapore, 18/10/2022

# The Digital Transformation

# Digital Transformation - a must have



Digital transformation of oil and gas sectors: How to tap new value ecosystems

INNOVATION

**Digital Transformation Is  
80% EQ And 20% IQ**

<https://www.forbes.com/sites/servicenow/2022/09/14/digital-transformation-is-80-eq-and-20-iq/?sh=156e74309397>

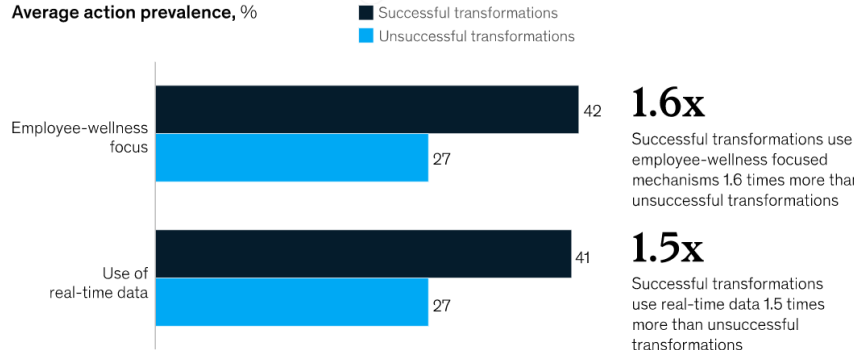
**Stop Using 'Digital Transformation' to Describe Your Business. This Meaningless Buzzword Fails To Spotlight Your Company's Biggest Asset.**

Businesses must move away from vague buzzwords surrounding "digital transformation" if they hope to genuinely and clearly get their messaging across.

# Governments and Digital Transformation

What differentiates successful from unsuccessful transformations is the focus on employee engagement and use of real-time data.

Average action prevalence, %



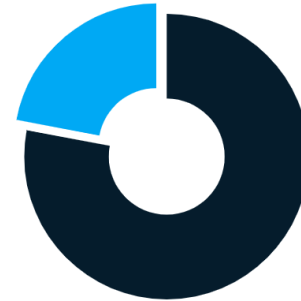
Source: McKinsey Center for Government Transformation Survey, 2021

McKinsey  
& Company

Twenty-two percent of government transformations meet their objectives fully and on time.

**22%**

**successful:**  
Objectives met or exceeded on time and on budget



**78%**

**unsuccessful:**  
Objectives missed, took longer than allocated time

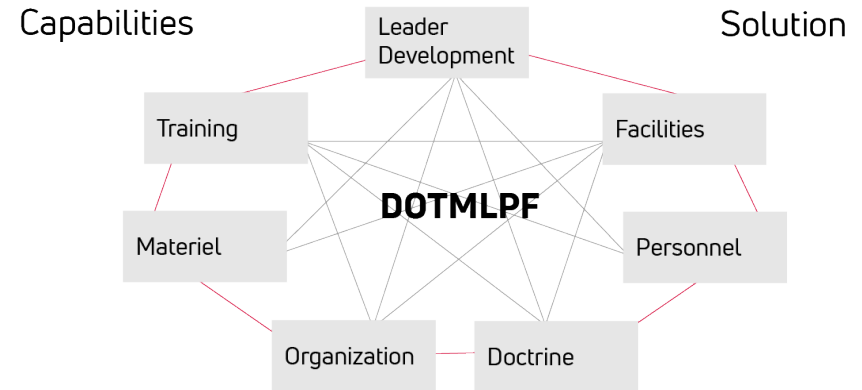
Source: McKinsey Center for Government Transformation Survey, 2021

McKinsey  
& Company

# Digital Transformation

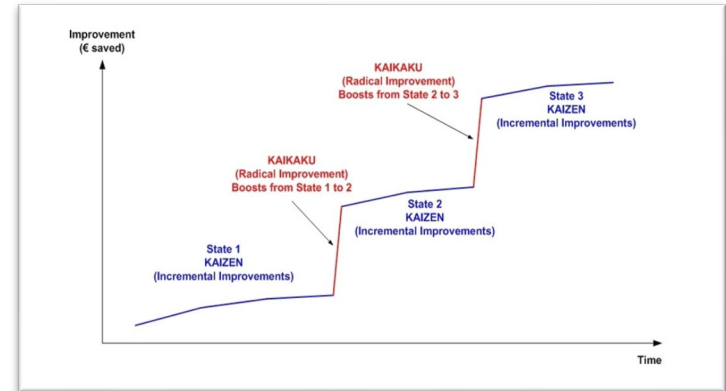
1. Disruptive digital technologies
2. Alteration of value creation paths
3. Managing Structural changes and organizational barriers

*digital transformation, broadly speaking, is the process of organizing work so that people and technology work better together.*



# The End of Kaizen?

Digital Kaizen—a philosophy that focuses on making continuous digital improvements—could guide large-scale digital transformation activities in incremental steps

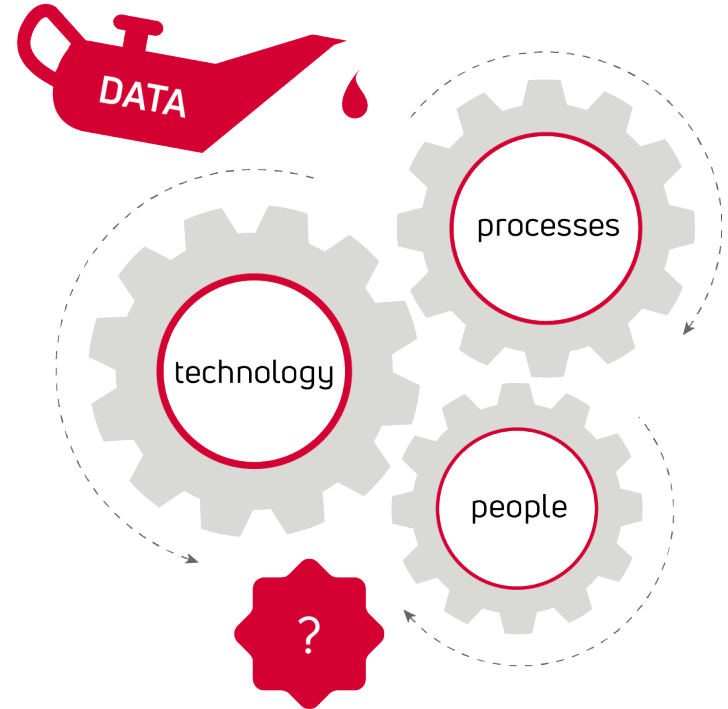


# The DT Gearbox

- Multi Domain Operations: Decision Dominance
- The 3 Vs of Big Data
- Cyberspace redefines concepts time and distance

*Something in the mechanism not designed for the new working point.*

*The result: blockage or the breaking of the entire mechanism.*

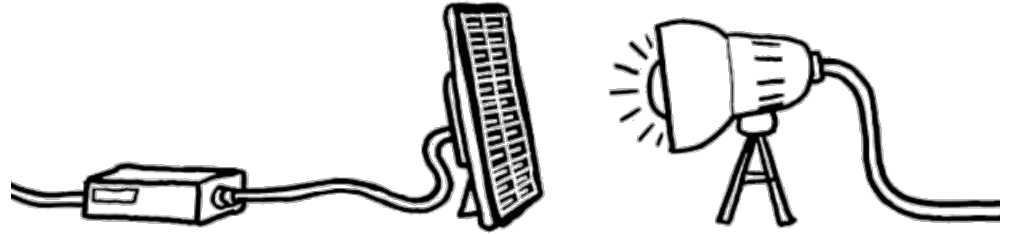


## Air Gapping: The Golden Standard



# Air Gapping

- Aka Sneaker networks
- Mainly based on the use of removable media
- The golden standard for data I/O in high security domains
- Still the reference in many norms



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ENERGY TIP: INCREASE THE SECURITY OF YOUR HOME POWER SUPPLY BY INSTALLING AN AIR GAP.

# The Myth of Air Gapping Security

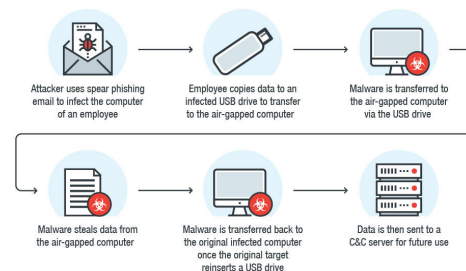
## Viability

- Non real-time
- Scalability issues for high volumes
- High operational costs
- Legacy interfaces on endpoints
- Gaps in accountability



## Security

- Open data interfaces increase attack surface
- Trust anchor only in the human actor
- Chain of custody auditable only at endpoints



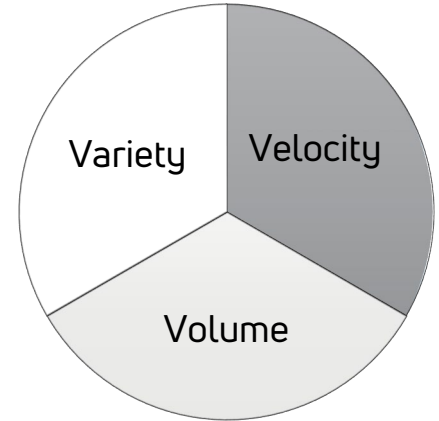
# Air Gapping: Velocity and Volume

## Velocity in air gapped systems depends on:

- Interfaces on endpoints and I/O capability of media
- Physical distance between source and destination endpoint
- Speed of the carrier (how good the sneakers are....)
- Volume of the data to be transferred
- Number of receiving endpoints

## Volume and air gapping:

- Several TB of data may be transferred on a regular basis: capacity of media
- Management overhead for media in their lifecycle (procurement, management, destruction)
- CAPEX/OPEX for removable media



# Security of Air Gapping

- Open ports increase surface of attack (hardening)
- Violation of the Separation of Duties principle
- Complete loss of accountability
- Violation of Integrity
- unique trust anchor is the human courier



**WCS** World News

## Japanese Man Lost a USB Drive With Entire City's Personal Data After a Night Out

An average Tuesday bender turned into an unforgettable night.

 By Hanako Montgomery

June 27 2022, 11:22am  Share  Tweet  Share

## Cross Domain Solutions

# Cross Domain Solutions

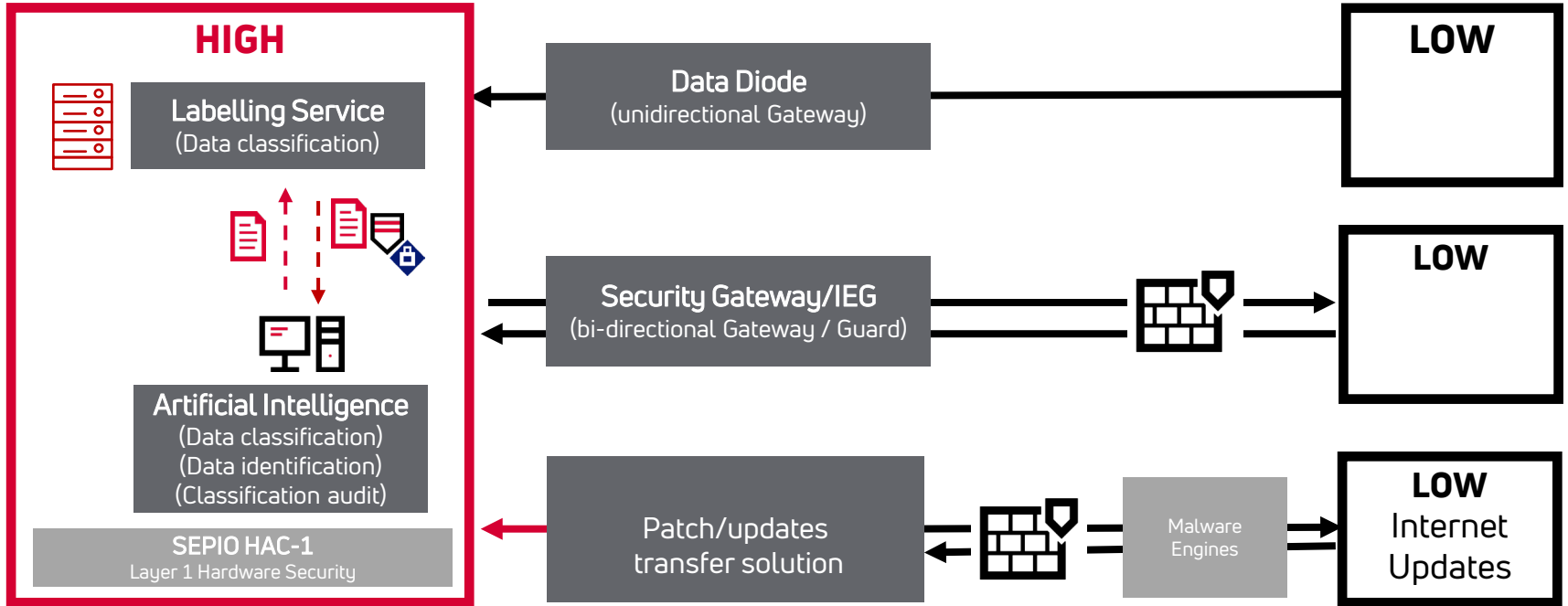
## What is a CDS

- ✓ Solution which Enable **unidirectional and bidirectional interconnections** between security domains
- ✓ Protect classified/sensitive information (confidentiality, integrity)
- ✓ Full auditing
- ✓ Separation of duties
- ✓ Security by design, development, deployment (evaluations and certifications)

## What a CDS is NOT

- ✗ Firewall
- ✗ An encrypting device/encrypted storage
- ✗ An anti malware scanner

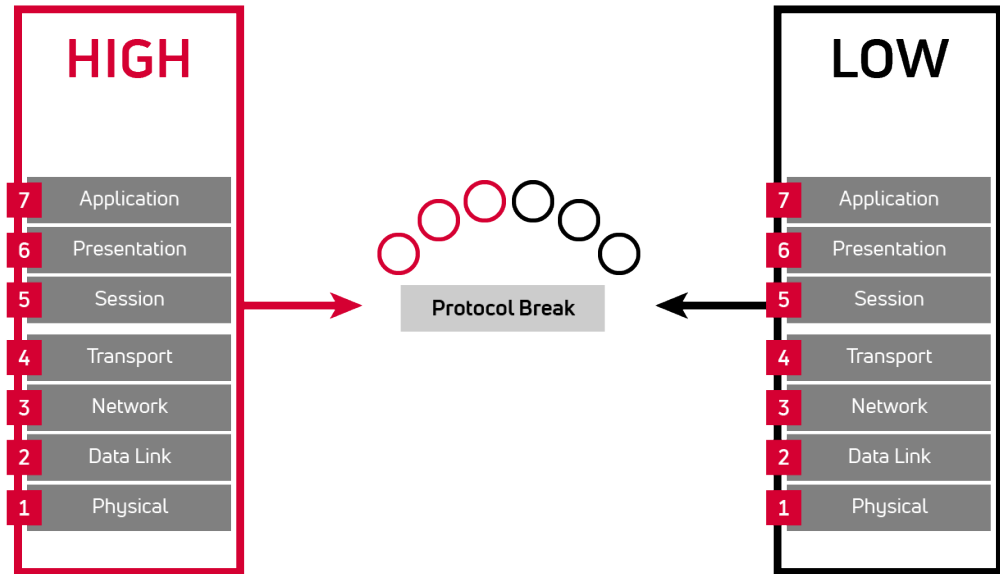
# Cross Domain Solution in a Nutshell



# CDS Applications



- Defence, Public Security, Critical infrastructure
- Security, Privacy or safety requirements





# CDS Benefits

## Small footprint:

- Limited SWAP (Size, Weight And Power)
- Resilience/Reliability
- Low impact on logical architectures
- Integration with other security solutions (firewalls, anti malware)

## High assurance:

- approvals/certification to the highest security standards
- High availability/fail safe
- security by design:
  - Separation of duties (4 eyes/RBAC with HW token)
  - Full accountability (full logging)
  - Hardening (microkernel)
  - Low sensitivity to new threats (ruleset/security label based)

# INFODAS Cross Domain Solutions



Appliances  
"men in the middle"

Security by design

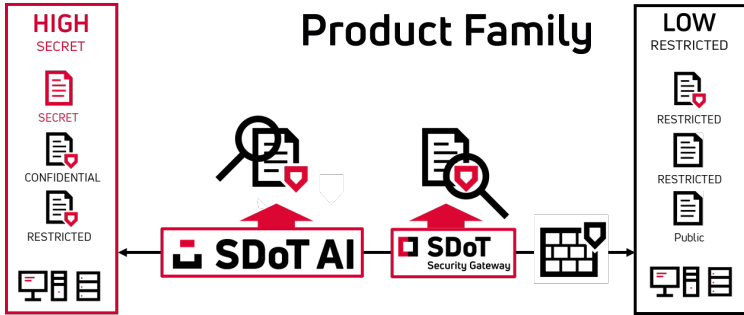
Unidirectional  
Bi-directional

Data flow based on zero  
trust & whitelisting

Deep Content Inspection &  
Sanitization  
Filters of any data object

Government evaluations &  
accreditation

## SDoT Product Family



**SDoT**  
Security Gateway

**SDoT AI**  
DATA CLASSIFIER

**SDoT**  
Diode

**PATCH.works**

# Thank you

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The logo for infodas features the word "infodas" in a bold, dark grey, lowercase sans-serif font. A solid red circle is positioned above the letter 'i'. Below the word "infodas" is the tagline "connect more. be secure." in a smaller, dark grey, lowercase sans-serif font. A red dot is placed at the end of the tagline, after the period following "secure".