The 17th Asian Waterworks Utilities Network of Human Resources Development (A1-HRD)

Human Resource Development Strategies for Digital Transformation in Waterworks

Metropolitan Waterworks Authority (MWA)
30 - 31 October 2024

Agenda

- Introduction
- Digital Disruption
- Challenges of Digital Transformation
- MWA Digital Master Plan
- MWA Development Roadmap (Digital)
- MWA Digital Competency Development Program
- Best Practice : Knowledge Application in Waterworks

Introduction

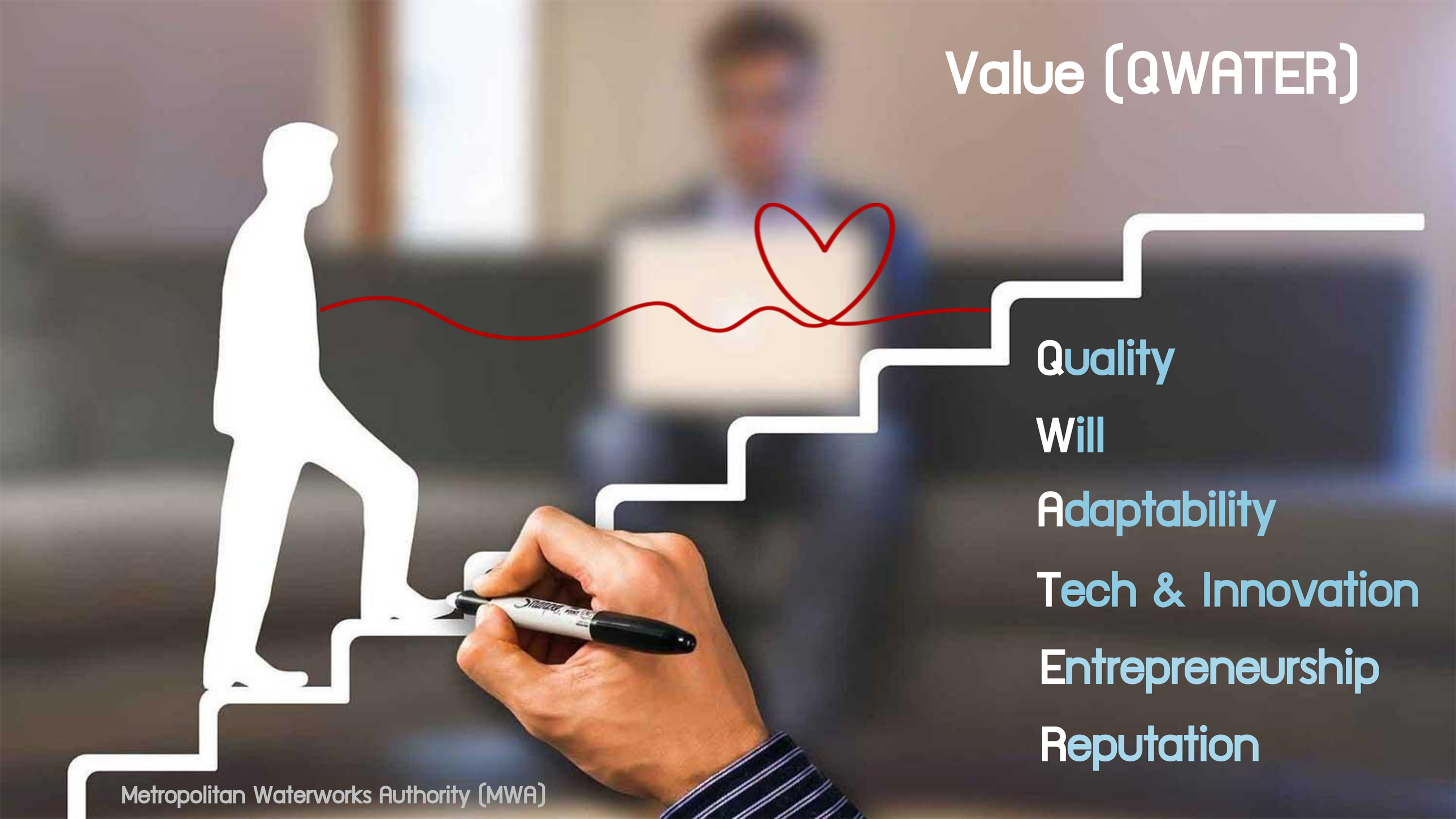
Vision

"Quality Water for Quality Living"

Mission

1. Develop organization growth and sustainability
2. Implement Water Safety Plan according to WHO standard by assuring the stability of water resource production and transmission
3. Deliver professional water supply service to reach and balance stakeholder needs
4. Improve people's quality of life by expanding water services and societal responsibility

Metropolitan Waterworks Authority (MWA)


Value (QWATER)
Quality
Will
Adaptability
Tech & Innovation
Entrepreneurship
Reputation
Metropolitan Waterworks Authority (MWA)

MWA Strategic Positioning

2023

Organizational Excellence

Short-term

2024 - 2026

Business Growth (Related Business)

Middle-term

2027

Smart Organization For Value Creation

Long-term

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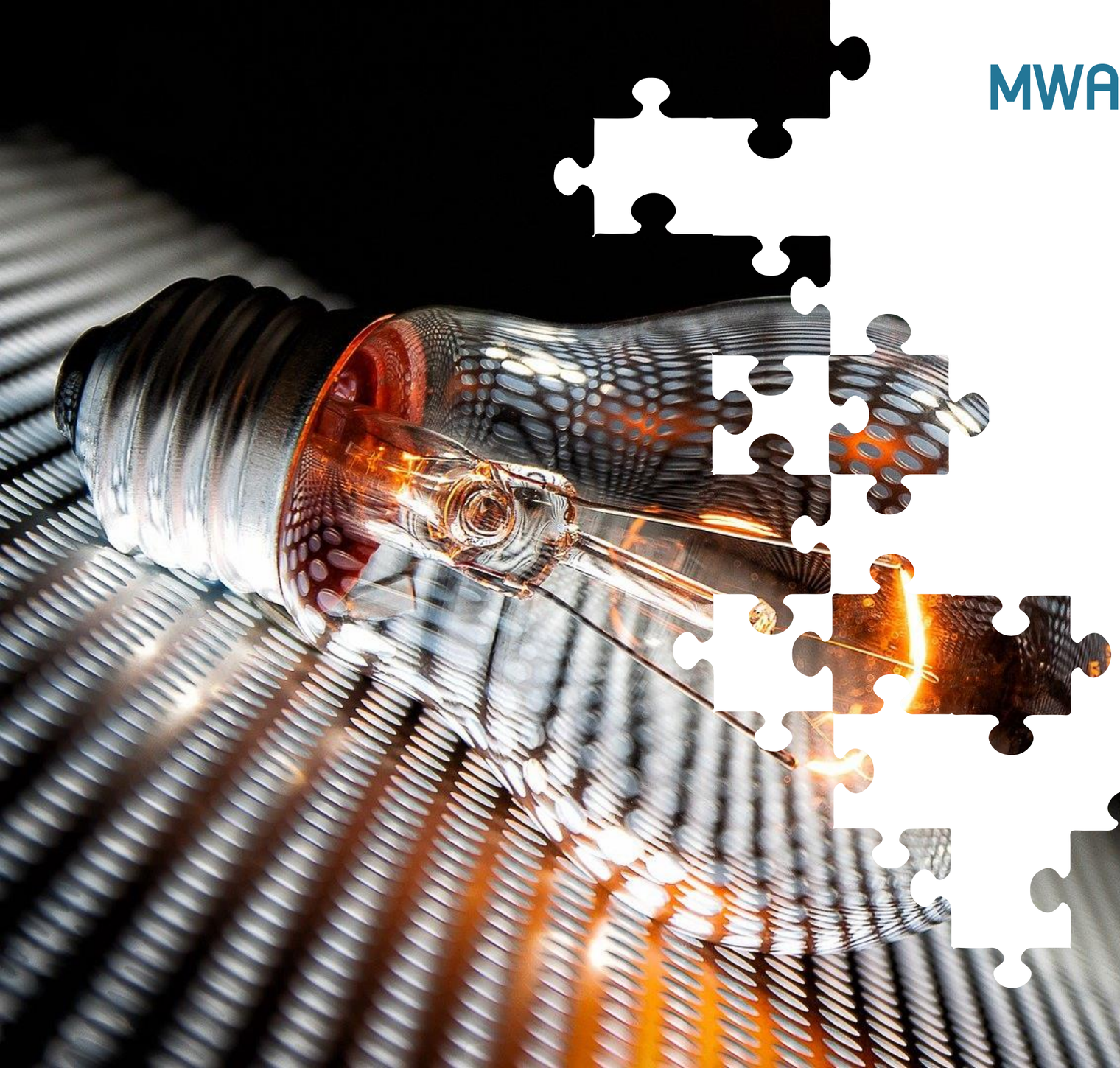


MWA Strategic Objective

- S01 Water Stability
- S02 Adaptive Organization
- S03 Sustainable Partnership
- S04 High Financial Performance
- S05+ Sustainable Growth (BU)

Corporate Plan & Master Plan

Corporate Plan

Human Capital Management

Good Governance

Corporate Social Responsibility

Stakeholder Management

Customer Marketing and Finance

Knowledge Management

Innovation

Digital Technology

Risk Management

Digital Disruption

Digital disruption is an effect that changes the fundamental expectations and behaviors in a culture, market, industry or process that is caused by, or expressed through, digital capabilities, channels or assets.

- Technological Innovation
- Changing Consumer Behavior
- New Business Models
- Data Utilization
- Agility and Adaptability
- Collaboration and Ecosystems
- Regulatory and Compliance Changes

Challenges for Digital Transformation

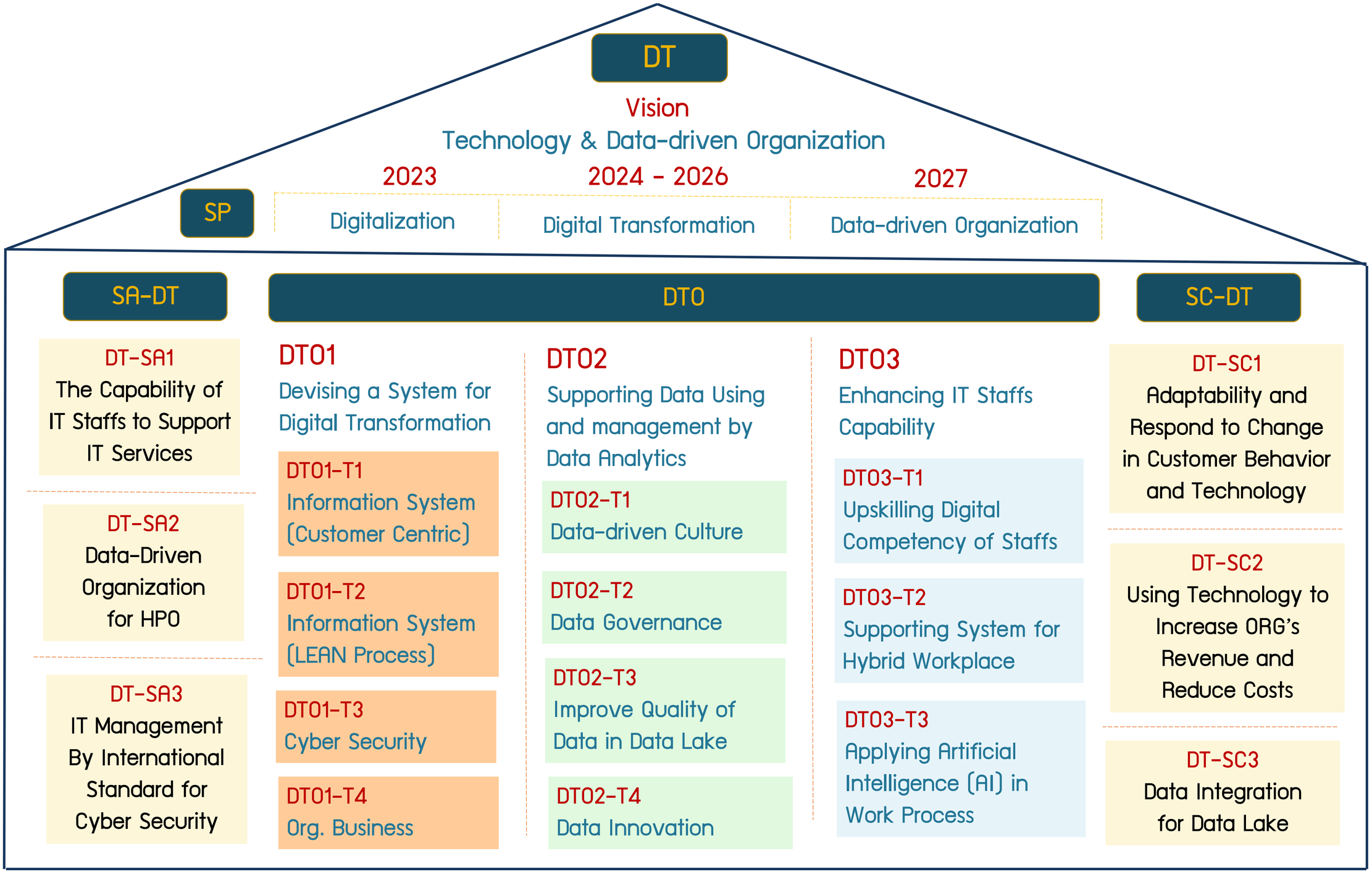
Challenges for Digital Transformation

Digital transformation refers to the comprehensive process of integrating digital technologies into all areas of a business, fundamentally changing how it operates and delivers value to customers. It goes beyond merely adopting new tools; it involves a cultural shift that requires organizations to continuously challenge the status quo and embrace change.

- Resistance to Change
- Skill Gaps
- Cybersecurity Risks
- Legacy Systems
- Market Competition
- Customer Expectations
- Regulatory Compliance
- Data Management
- Cultural Shifts

MWA Digital Master Plan 2023 - 2027

Metropolitan Waterworks Authority (MWA)


DT
Vision
Technology & Data-driven Organization
SP
2023
Digitalization
2024 - 2026
Digital Transformation
2027
Data-driven Organization
SA-DT
DT-SA1
The Capability of IT Staffs to Support IT Services
DT-SA2
Data-Driven Organization for HPO
DT-SA3
IT Management By International Standard for Cyber Security
DTO
DTO1
Devising a System for Digital Transformation
DTO1-T1
Information System (Customer Centric)
DTO1-T2
Information System (LEAN Process)
DTO1-T3
Cyber Security
DTO1-T4
Org. Business
DTO2
Supporting Data Using and management by Data Analytics
DTO2-T1
Data-driven Culture
DTO2-T2
Data Governance
DTO2-T3
Improve Quality of Data in Data Lake
DTO2-T4
Data Innovation
DTO3
Enhancing IT Staffs Capability
DTO3-T1
Upskilling Digital Competency of Staffs
DTO3-T2
Supporting System for Hybrid Workplace
DTO3-T3
Applying Artificial Intelligence (AI) in Work Process
SC-DT
DT-SC1
Adaptability and Respond to Change in Customer Behavior and Technology
DT-SC2
Using Technology to Increase ORG's Revenue and Reduce Costs
DT-SC3
Data Integration for Data Lake

MWA Development Roadmap 2023 - 2027

MWA Digital Development Roadmap (Year 2023 - 2027)

Tactic	Courses	Year	Types of Development
DT01 Devising a System for Digital Transformation	1. Enterprise Architecture	2024	Classroom Training + Workshop
	2. Data Governance	2024	Workshop/E-learning
	3. Intelligent Internal Audit	2024	Workshop/E-learning
	4. Information System for Customer Service Excellence	2025	
	5. Customer Information System (CIS)	2025	Workshop/E-learning
	6. AquaDAT Phase 2	2025	Workshop/E-learning
	7. Augmented Reality (AR)	2025	Workshop/E-learning
	8. R&D and Innovation System	2025	Workshop/E-learning
	9. MWA Enterprise Performance Management	2025	Workshop/E-learning
	10. Human Resource Management System	2026	Workshop/E-learning
DT02 Supporting Data Using and management by Data Analytics	1. Data Governance for Data Stewart and DG Council	2024	Classroom Training + Workshop
	2. Revising Data Governance	2025	Classroom Training + Workshop
	3. Development in Data Governance	2026	Classroom Training + Workshop
	4. Enhancing Data Governance	2027	Classroom Training + Workshop

MWA Digital Development Roadmap (Year 2023 - 2027)

Tactic	Courses	Year	Types of Development
	5. Introduction of Rules and Compliance about Open Data	2024	Classroom Training + Workshop E-learning
	6. Revising the quality of Rules and Compliance about Open Data (2025)	2025 -2026	Classroom Training + Workshop
	7. Development in the quality of Rules and Compliance about Open Data	2027	Classroom Training + Workshop
	8. Data Analytics Bootcamp	2024 - 2027	Blended Learning
DT03 Enhancing IT Staffs Capability	1. Standard of IT Services (ISO 20000)	2025	Classroom Training + Workshop E-learning
	2. Increasing Efficiency in Cyber Security for System Admin	2025	Classroom Training + Workshop E-learning
	3. Performance Improvement : State Enterprise Performance Appraisal (SE-AM)	2024 - 2027	Classroom Training + Workshop
	4. Basic Power BI	2024 - 2027	Classroom Training + Workshop
	5. Advance Pivot Table	2024 - 2027	Classroom Training + Workshop
	6. Awareness of PDPA and Cyber Law	2024 - 2027	Virtual Training + E-learning
	7. Cyber Security Awareness	2024 - 2027	Virtual Training + E-learning

Human Resource Development in Digital (2024)

22.70% of Annual training courses were training courses in Digital.

43.72% of staffs attended training courses in Digital.

MWA Digital Competency Development Program

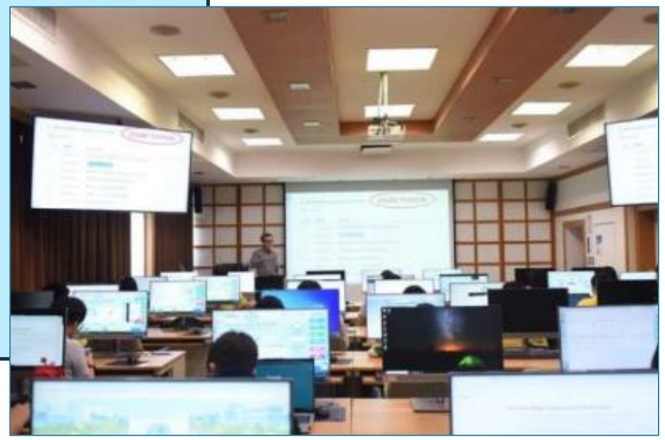
Training Development Plan : Digital

Data Analytic

- Python Programming for Big Data
- Statistical Data Analysis
- Data Engineer Bootcamp
- Business Intelligence Analyst
- Data Scientist Bootcamp
- MWA Analytic Camp

General

- MS PowerPoint
- MS Excel
- Cyber Security
- Personal Data Protection Act (PDPA)
- Metadata for Organizing Digital Information



Training Courses in Digital (Technical Waterworks)

Project Management

Customer Information System (CIS)

Epanet Level 1-3

Geographic Information System (GIS)

Asset Management

Related fields

Innovation

- Innovation Process Development
- Regulation of Innovation
- Intellectual Property for Business Innovation

Knowledge Management (KM)

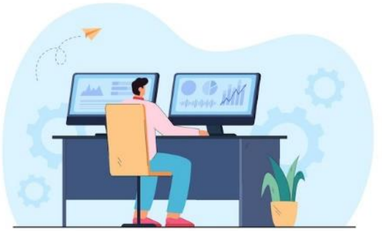
- KM Camp for KM facilitator
- KM Super FA
- KM Portal
- KM Productivity Coach

Training Courses 2024 in Digital Area

E-Learning

Business Development Department

- Digital Media Production
- Data & AI for Communication



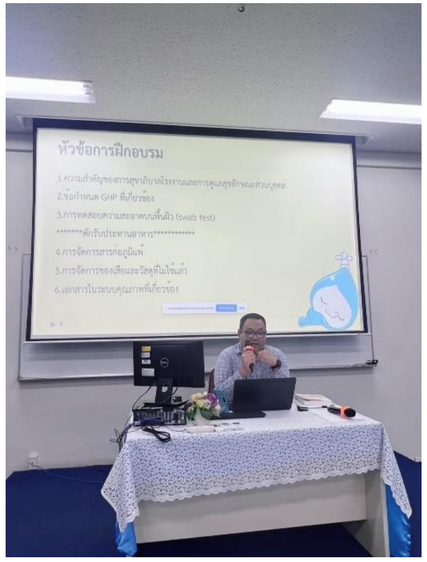
HRM & HRD Department

- Generative AI & Chat GPT
- Statistic made simple

Method of Development

Classroom Training

Classroom



Group Workshop

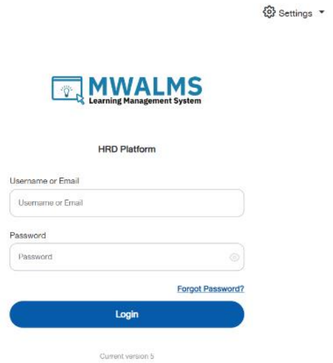
Project

-Observed by Business Development Department to apply and deploy the ideas to the related tasks.

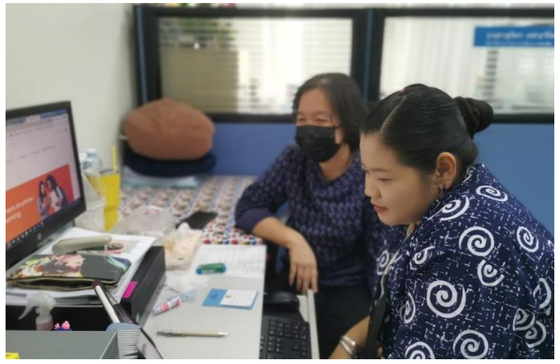
Non-classroom training

E-learning :

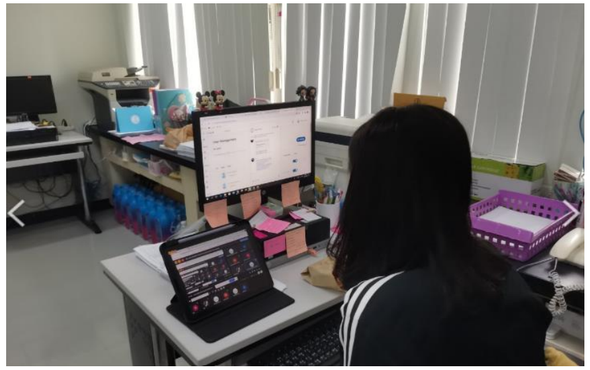
- Digital
- Innovation
- Knowledge management
- Human Resource
- Financial



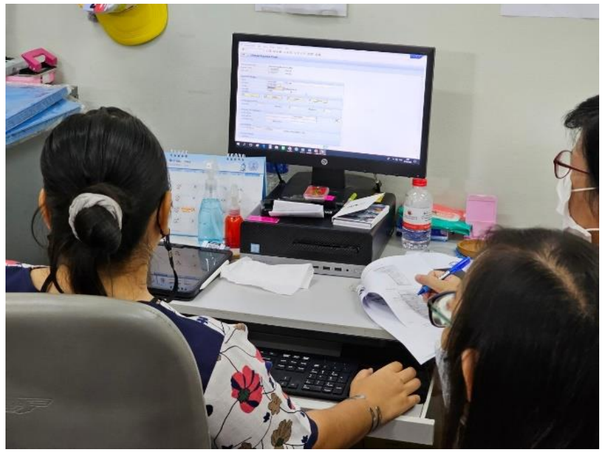
Coaching



Self-learning



On-the-job-training



Benefits

Building internal lecturers

Training Courses :

- ✓ Power BI
- ✓ Water Safety Plan
- ✓ Water Loss Management
- ✓ Factory sanitary and personal hygiene
- ✓ KM

etc...

Expense reduction

MWA's internal lecturers
= ~$120 per day

External lecturer
= at least ~$500 per day

Training for 30 days
✓ **Organization expenses reduced by ~$11,400**

MAHASAWAT WATER
TREATMENT PLANT
DEPARTMENT

FACTORY CHEMICAL ORDER

BY APPSHEET

Team Members

Mr. Chaiwat Chotkatitam
Director of Mahasawat Water Treatment Plant Department

Mr. Worawit Whangchenchom
Scientist Level 5
Production System Water Quality Analysis Section

Mr. Thanachote Jirapanasom
Engineer Level 5
Automation System Maintenance Division

Mr. Vorapol Suwanchompoo
General Administrative Officer Level 6, Risk Management Department

Miss Onsupa Leelayingyong
Engineer Level 5
Instrument and Automation System Maintenance Department

MISS SAHANAN NO-REE
Assistant Information Technology Officer Level 3
Administrative Section

Mr. Awirut Rattanachoo
Scientist Level 5
Production System Water Quality Analysis Section

BETTER FOR FUTURE

Factory Chemical Order

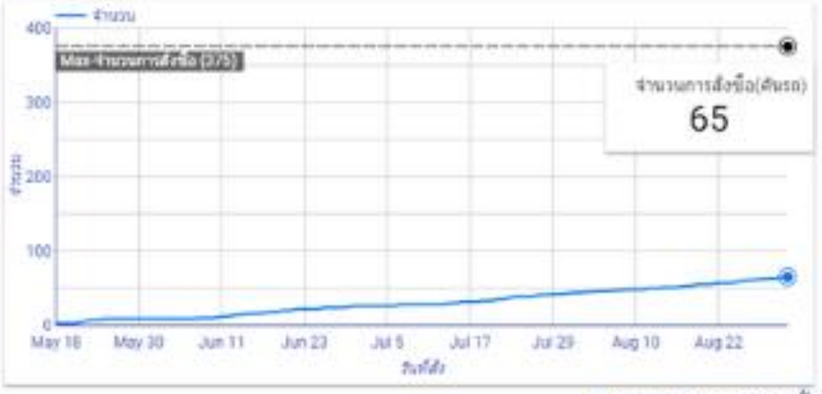
(1)เลือกช่วงระยะเวลาที่ต้องการ Select date range

(2)เลือกโรงงาน โรงงานผลิตน้ำ: มหาสวัสดิ์ (1)

(3)เลือกบริษัท บริษัท: AGC Viny Thai co. (1)

ปริมาณทั้งสัญญา(ตัน)	ปริมาณสั่งซื้อ(ตัน)	ปริมาณคงเหลือ(ตัน)
3000	416	2584

กราฟแสดงจำนวนการสั่งสินค้า (จำนวนคันรถ)

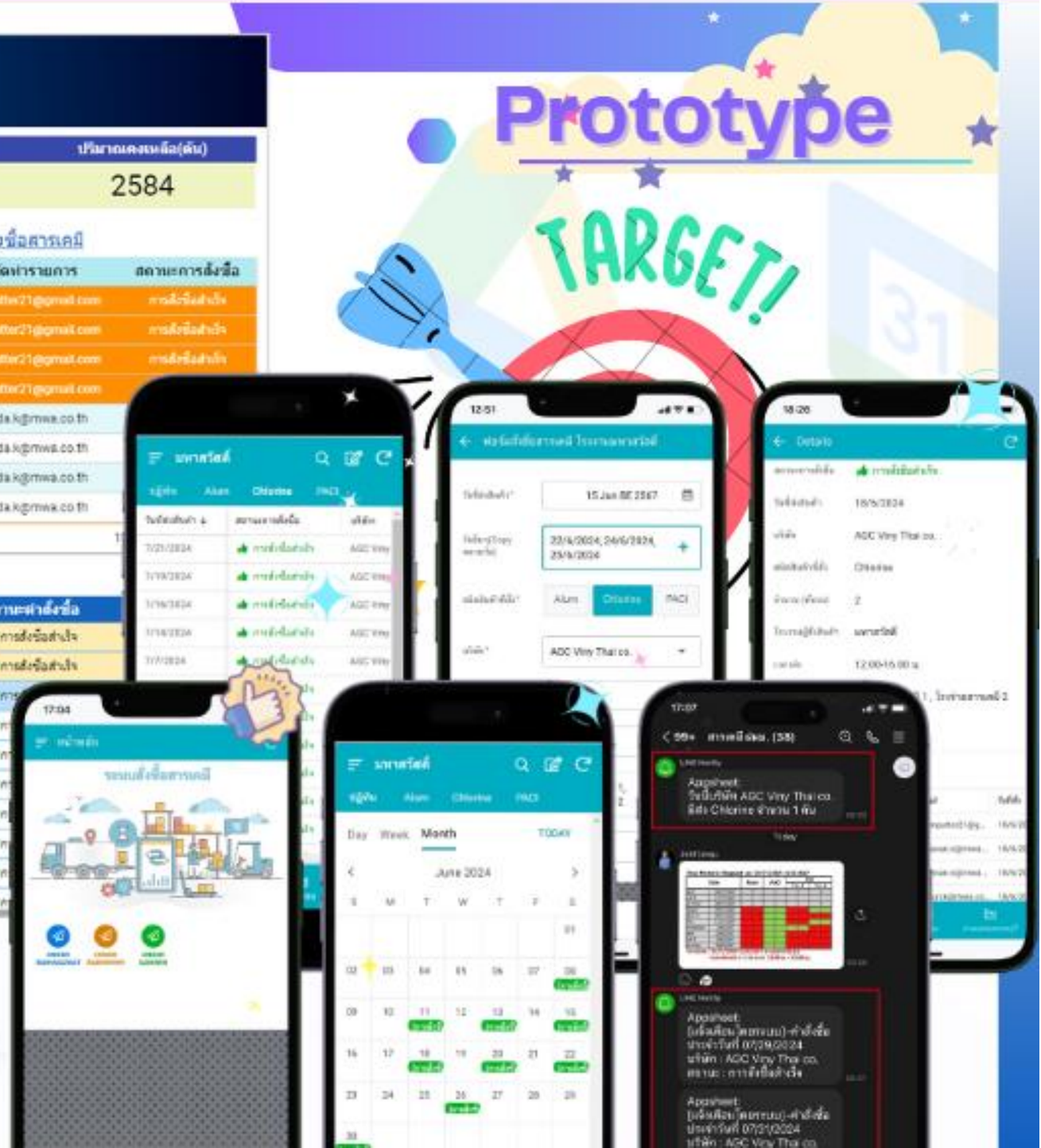


ประวัติรายการสั่งซื้อสารเคมี

	วันทำรายการ...	เวลา ...	ผู้จัดทำรายการ	สถานะการสั่งซื้อ
1.	Aug 25, 2024	08:52:56	momputter21@gmail.com	การสั่งซื้อสำเร็จ
2.	Aug 25, 2024	08:52:32	momputter21@gmail.com	การสั่งซื้อสำเร็จ
3.	Aug 25, 2024	08:52:21	momputter21@gmail.com	การสั่งซื้อสำเร็จ
4.	Aug 25, 2024	08:51:36	momputter21@gmail.com	
5.	Aug 25, 2024	07:31:26	nattida.k@mwa.co.th	
6.	Aug 25, 2024	07:31:21	nattida.k@mwa.co.th	
7.	Aug 25, 2024	07:31:16	nattida.k@mwa.co.th	
8.	Aug 25, 2024	07:31:09	nattida.k@mwa.co.th	

ตารางแสดงรายการสั่งซื้อสารเคมี

	โรงงานผลิตน้ำ	วันที่สั่งสินค้า	ชนิดสินค้าที่สั่ง	บริษัท	สถานที่จัดส่ง	จำนวน(คันรถ)	สถานะคำสั่งซื้อ
1.	มหาสวัสดิ์	2024/09/01	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1	1	การสั่งซื้อสำเร็จ
2.	มหาสวัสดิ์	2024/08/31	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 2	1	การสั่งซื้อสำเร็จ
3.	มหาสวัสดิ์	2024/08/29	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 2	1	
4.	มหาสวัสดิ์	2024/08/28	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1	1	
5.	มหาสวัสดิ์	2024/08/26	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1	2	
6.	มหาสวัสดิ์	2024/08/25	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 2	2	
7.	มหาสวัสดิ์	2024/08/22	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1 , โรงจ่ายสารเคมี 2	2	
8.	มหาสวัสดิ์	2024/08/19	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1 , โรงจ่ายสารเคมี 2	2	
9.	มหาสวัสดิ์	2024/08/17	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 1 , โรงจ่ายสารเคมี 2	2	
10.	มหาสวัสดิ์	2024/08/14	Chlorine	AGC Viny Thai co.	โรงจ่ายสารเคมี 2	1	



IDEA

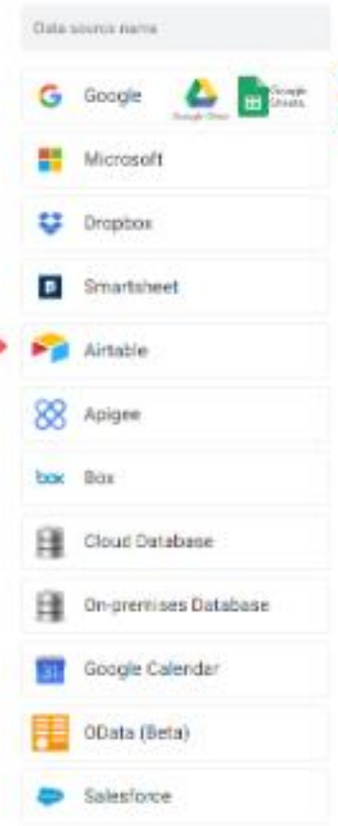
IDEA

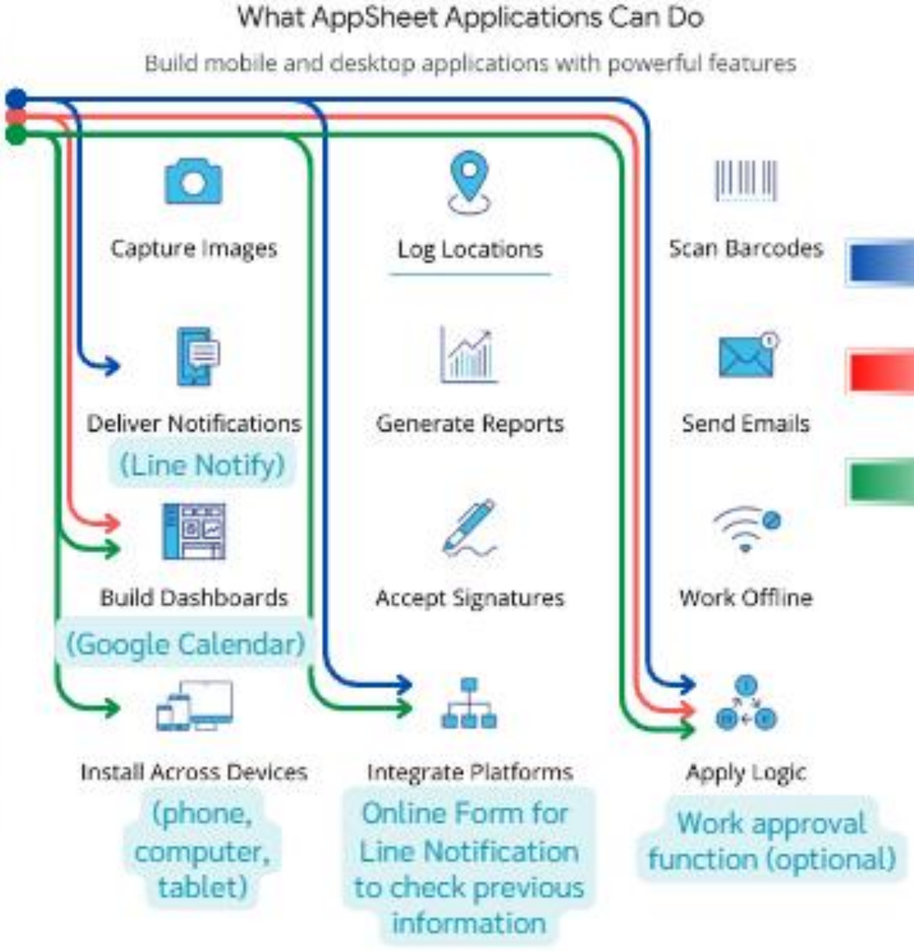
Build Model Innovation Tools with AppSheet

My Knowledge → **Database Cloud & Google Drive** → **AppSheet Module** → **Our Modern Application**

Knowledge in System Process
- -Logistic
- -Ordering
- -Stocking

Knowledge in Digital & Programs
- -Data Analytic
- -Business Intelligence Analyst
- -Appsheet
- -Line Notification





Outcome

Corporate Innovation Award : Silver Level

Prototype Category (Topic : Cost Reduction)

Using Appsheet instead of staffs.

- ✓ To reduce process for chemical orders submitting plan and confirmation.
- ✓ To reduce period of time for ordering chemicals.

➢ Cost reduction ~$630 for developing application.

Q&A

THANK YOU

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