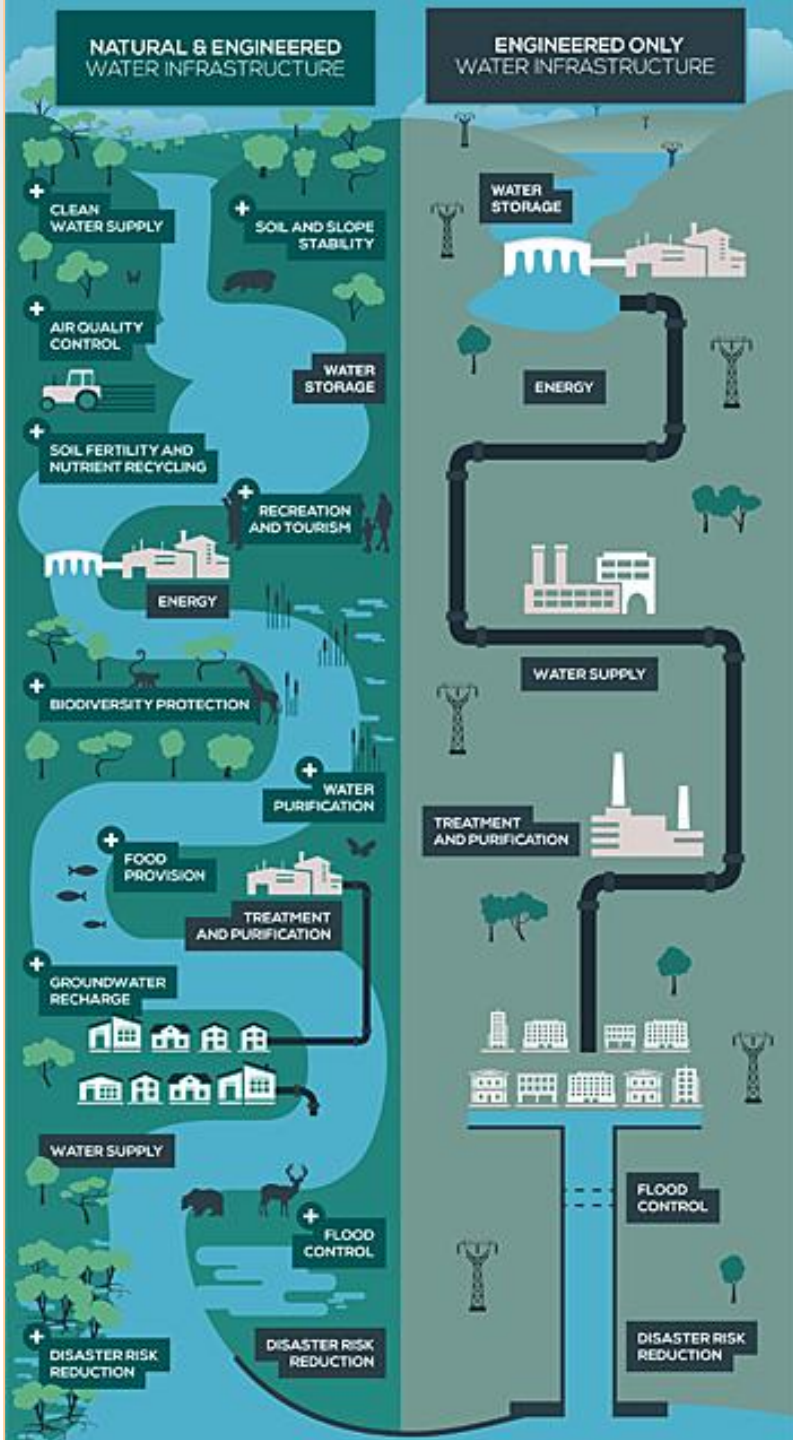
Asset Information Management System for Water Infrastructures

Water Infrastructures

- Irrigation
- Rivers
- Water supply
- Water storage
- Water treatment
- Water storage
- Water resource management
- Flood prevention and hydropower
- Water distribution, etc.



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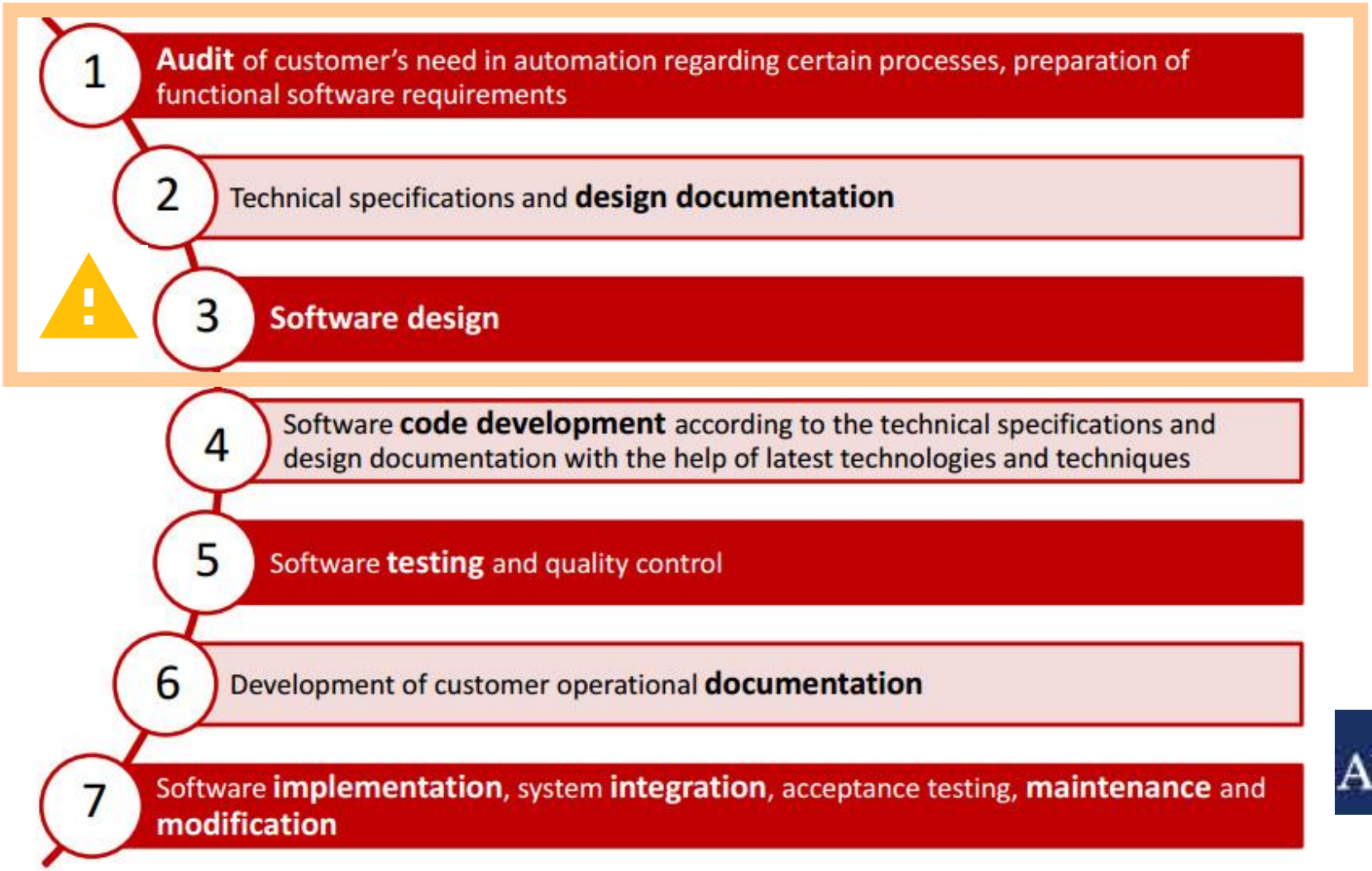
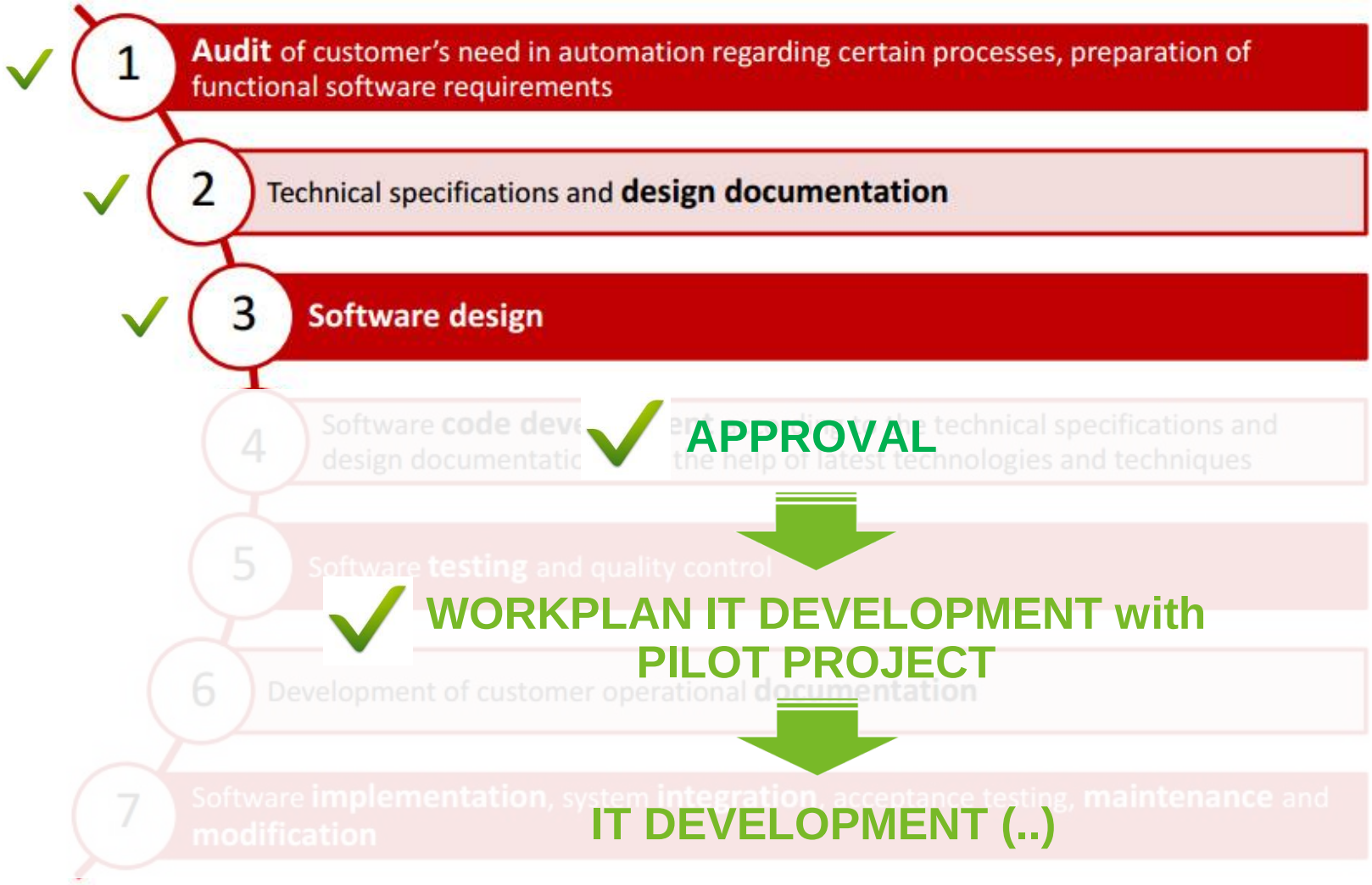
Systems (for Water Infrastructures) need IT & Data Governance

- IT & Data governance refers to the overall management of the availability, usability, integrity, and security of the data employed in an enterprise/organization.
- Data needs to be treated as a strategic asset that can be used as a trusted source of information throughout the organization. Data needs to be managed throughout its entire lifecycle. Therefore with adequate strategy, plan, budget and human resources (development & maintenance)
- Data Governance Is To Govern your Data and not Data Governing You

Systems (for Water Infrastructures) Assess & Define the IT Development



Systems (for Water Infrastructures) Assess & Define the IT Development



How does Asset Management System help?

- Operation & Maintenance
- Prolonging asset life and improving decisions with timely asset rehabilitation, repair, and replacement
- Meeting consumer demands with a focus on system sustainability – increase sector satisfaction
- Setting rates based on sound operational and financial planning
- Budgeting focused on critical activities for sustained performance
- Meeting service expectations and regulatory requirements
- Improving responses to emergencies
- Improving the security and safety of assets
- Reducing overall costs for both operations and capital expenditures
- Seamless integration with GIS
- Inspection schedule for predictive maintenance, etc.

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Asset Management System (for Water Infrastructures) - Features?

- Asset Inventory
- Performance
- Level of Service
- Monitoring & Evaluation
- Operations & Maintenance
- Critical Assets
- Lifecycle Costing
- Planning
- Budgeting/Funding
- Operations & Maintenance

schedule, etc.

Asset Management System for Water Infrastructures - Goals?

- Support providing clean, safe water to protect the public health and the environment.
- Achieve long-term sustainability for water cycle resources and systems, and deliver consistent service in a cost-efficient manner.
- Helping utility managers make better decisions about aging assets, develop an effective repairing, replacing or rehabilitating for mid-term and long-term funding.
- The process of planning and implementing an asset management strategy becomes more streamlined with modern utility maintenance system/software (Ref. Smart Water/Cities, Satellite Remote Sensing, Internet Of Things, etc.)

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Asset Management System (for Water Infrastructures) – How to start?

- Top management engagement and support from the whole organization.
- Review the organization's structure.
- Conduct an asset management self-assessment
- Identify the asset management policies, procedures and goals to be achieved.
- Benchmarking (other countries).
- Identify the technologies (Including Smart Water/Cities, Satellite Remote Sensing, Internet Of Things, etc.)
- Prepare the asset management action plan, technical specifications and development plan for the system.

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Asset Management System (for Water Infrastructures) – How to start?

- Sufficient and timely financial and human resources for development and implementation.

IT DEVELOPMENT (..)

Asset Management System & Modern Technologies?

- New Technologies: Centralized and Online
- Smart Water/Cities, Satellite Remote Sensing, Internet Of Things (including censors), etc.
- Enables Asset Recovery and GPS Positioning (GIS)
- Real Time
- Increase Productivity and Reduce Labor Waste
- Reduce Unnecessary Repair and Maintenance Costs
- Allows Maintenance Tracking
- Helps Conduct Asset Audits and Set Stock Thresholds
- Streamline Maintenance Schedules
- Optimize Accuracy and Improve Communications

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Modern Asset Management System Technologies for Water Infrastructure?

Balance of technologies between field needs, technical and human capacities and organization goals

Modern Asset Management System Technologies for Water Infrastructure?

SAMPLE ASSET MANAGEMENT SYSTEM

IRRIGATION / RIVER

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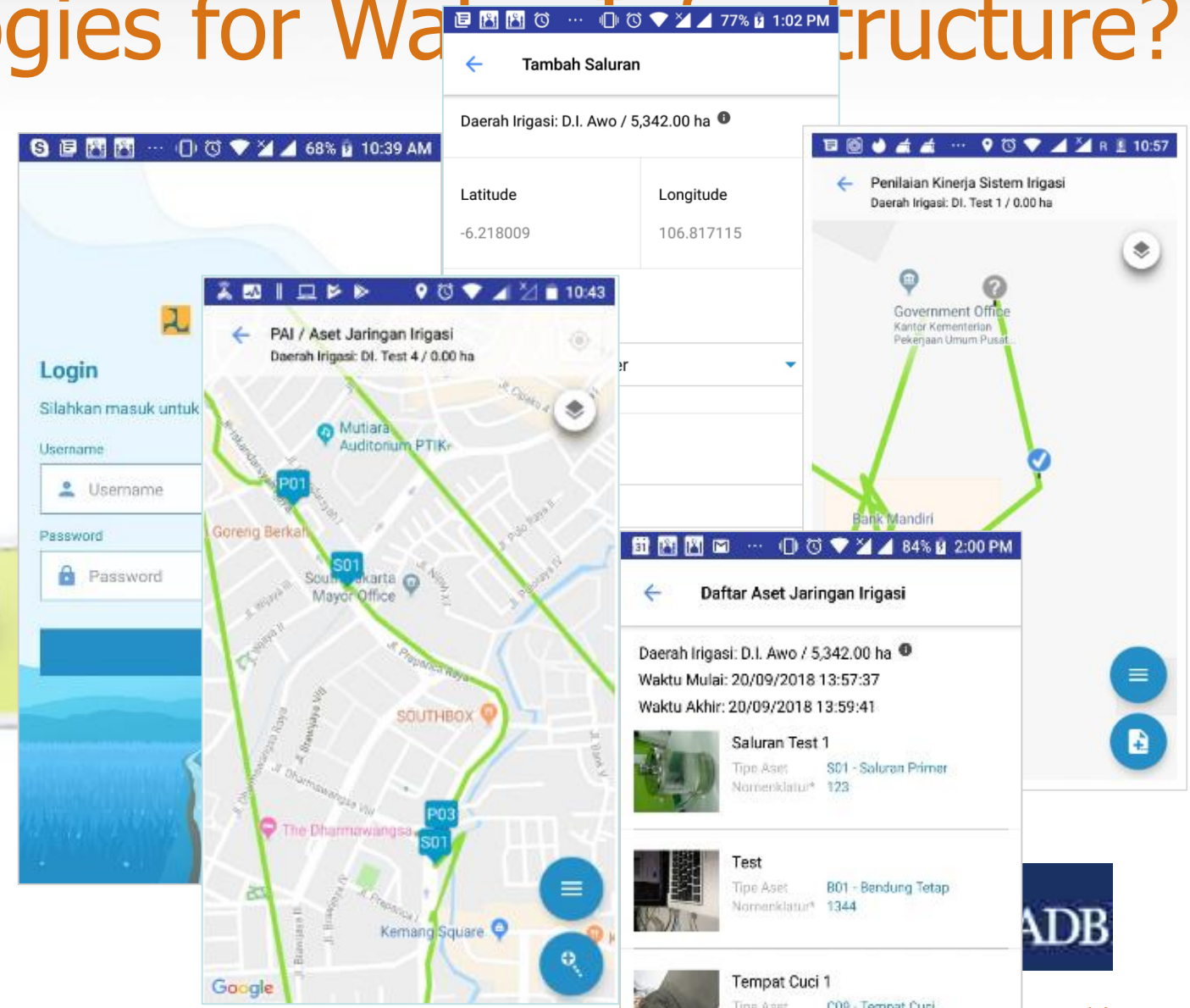
Modern Asset Management System Technologies for Wa tructure?

FIELD DATA COLLECTION



Modern Asset Management System Technologies for Water Infrastructure?

SAMPLE ASSET MANAGEMENT SYSTEM

URBAN WATER INFRASTRUCTURE

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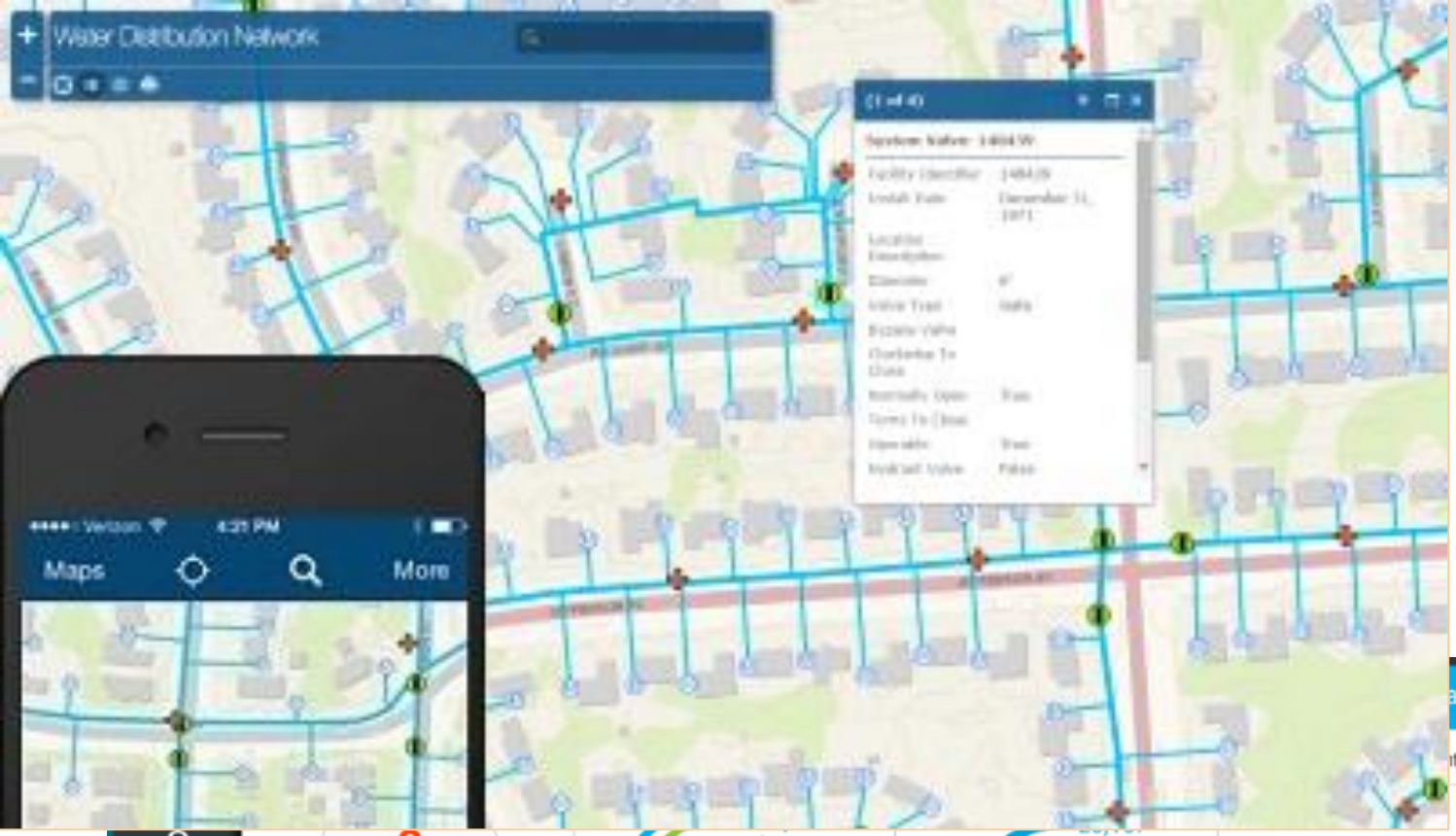

anuary 2016 to 29th January 2016

Global Comparison

Alerts

2

Water Purchase

Total Apartments 1,115

8.4 %

19,681
kilo litres

SUPPLIED
PURCHASED

11,493
kilo litres

LOWEST
HIGHEST

12.2 %

18,413

16,563
kilo litres

YOU
SIMILAR

3.33%

16,011

16,563
kilo litres

YOU
GLOBAL

Demand Note

Supply Control

Consumption this month

WEEK 1 4673 2 4521 3 4709 4 5113 5 665

April 2016

21,123

kilo litres

2,500
2,000
1,500
1,000
500

10 Jan 2016
843 litres

DAY 1 8 15 22 29

Maintenance Information Center

☐ Include Optional Items

Maintenance Items			Non-Routine Maintenance			Logbooks & Work Orders		Workflow	
9	0	1	3	0	1	35	53	27	9
Past Due	Within Threshold	Coming Due	Discrepancies	NEFs	MELs	eLogbooks	Work Orders	Review Required	Assigned

Fleet Information

☐ Show Calendar Only

	Aircraft	Reported Date	Reported Hours	Reported Landings	Next Item Due	Availability	Next Flight	Action	Status
☑	BBJ737	06-MAR-2017	7548	2882	15-DEC-2016	Available	-	Due List	Past Due
☑	CH600	15-MAR-2017	440	256	06-MAR-2017	Available	-	Due List	Past Due
☑	D900EX	14-MAR-2017	9321	10004	08-FEB-2017	Available	-	Due List	Past Due
☑	EC130	07-MAR-2017	630	3195	08-MAR-2017	Available	-	Due List	Past Due
☑	EMB500	15-MAR-2017	3538	3000	29-MAR-2017	Available	-	Due List	10+ Days
☑	D900EX	14-MAR-2017	9321	10004	08-FEB-2017	Available	-	Due List	Past Due
☑	EC130	07-MAR-2017	630	3195	08-MAR-2017	Available	-	Due List	Past Due
☑	EMB500	15-MAR-2017	3538	3000	29-MAR-2017	Available	-	Due List	10+ Days
☑	LEAR60	02-MAR-2017	8992	5880	04-FEB-2017	Available	-	Due List	Past Due

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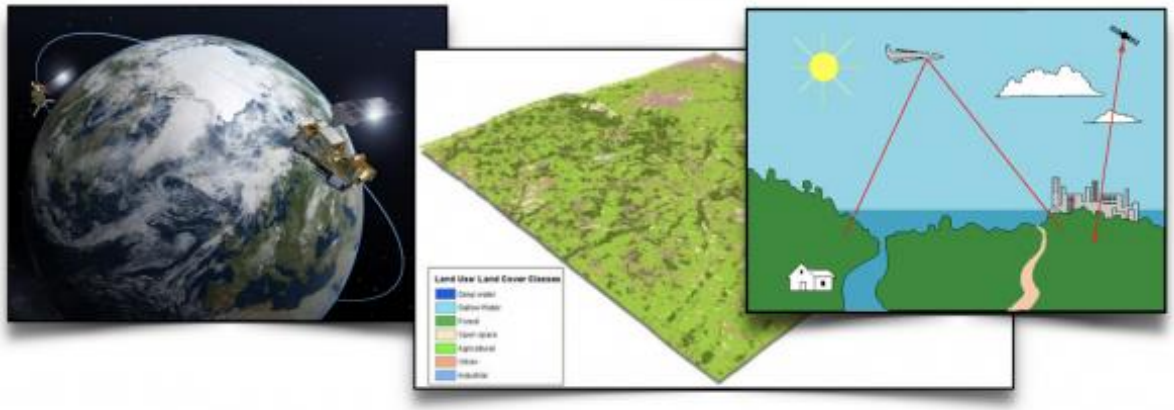
Modern Asset Management System Satellite Remote Sensing vs. "Field"

1. Superior reliability & Performance
2. Ubiquitous coverage
3. Global avaibility
4. Speed
5. Cost
6. Integration
7. Cost Effectiveness
8. Immediacy and Scalability
9. Outputs: Assets invenntory& monitoring, water quality, water level, crops conditions, leak detection, etc.



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Challenges, Opportunities & Potential Gaps

- Top management and staff engagement vs. insufficient governance.
- Data needs to be treated as a strategic asset:
  a. Realistic plan with realistic resources: procurement & budget, human resources, pilot project, etc.
  b. Ensure technical sustainibility with yearly maintenance/upgrade budget with sufficient skilled human resources.

Challenges, Opportunities & Potential Gaps

- Never revising asset-related policies: Processes are not static and policies should not be either.
- Implementing an Asset Management System is a data back-bone system with long-term strategy at all levels.
- Prepare and validate technical specifications before development.
- Implementing shared data & transparency.
- Capacity Development Framework & Trainings programs.
- Complexity vs. Realistic and start simple

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ADB