DC Water

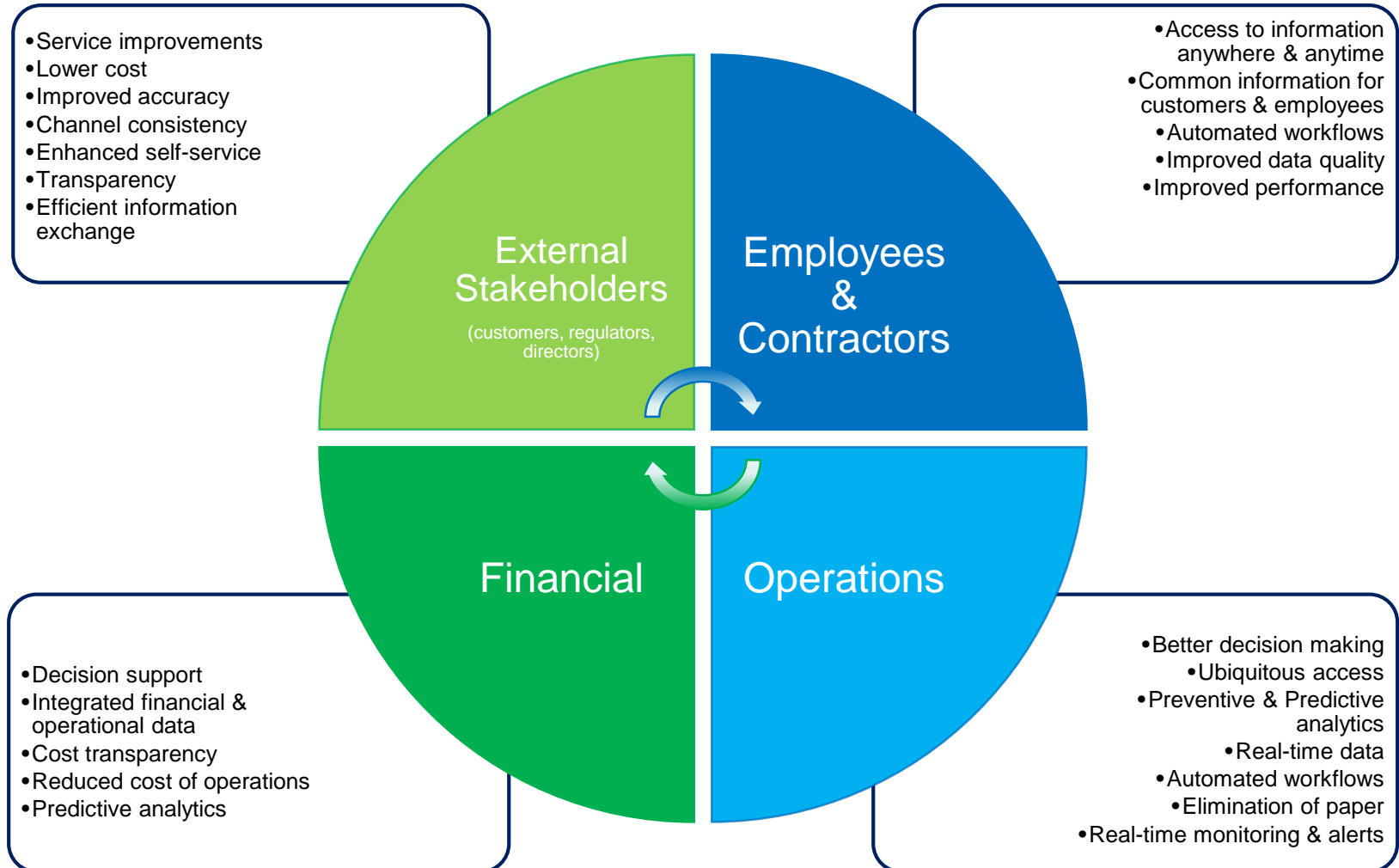**Creating the Digital Utility**
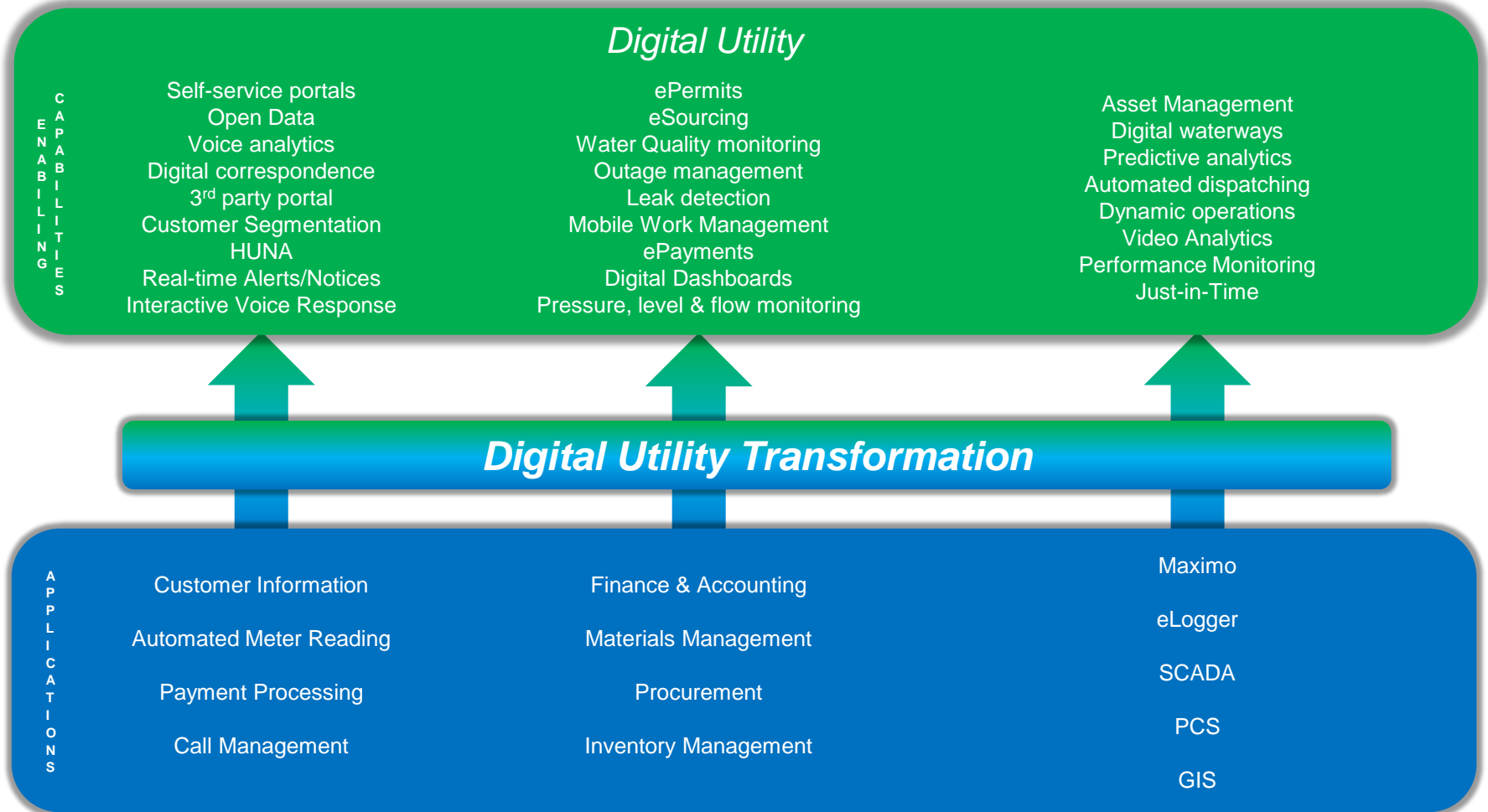
"The foundation of the Smarter Water Utility"

Benefits of the Digital Utility

An effective *Digital Utility* strategy has positive impacts across a range of stakeholders and processes both internal and external.

External Stakeholders (customers, regulators, directors)
- Service improvements
- Lower cost
- Improved accuracy
- Channel consistency
- Enhanced self-service
- Transparency
- Efficient information exchange

Employees & Contractors
- Access to information anywhere & anytime
- Common information for customers & employees
- Automated workflows
- Improved data quality
- Improved performance

Financial
- Decision support
- Integrated financial & operational data
- Cost transparency
- Reduced cost of operations
- Predictive analytics

Operations
- Better decision making
- Ubiquitous access
- Preventive & Predictive analytics
- Real-time data
- Automated workflows
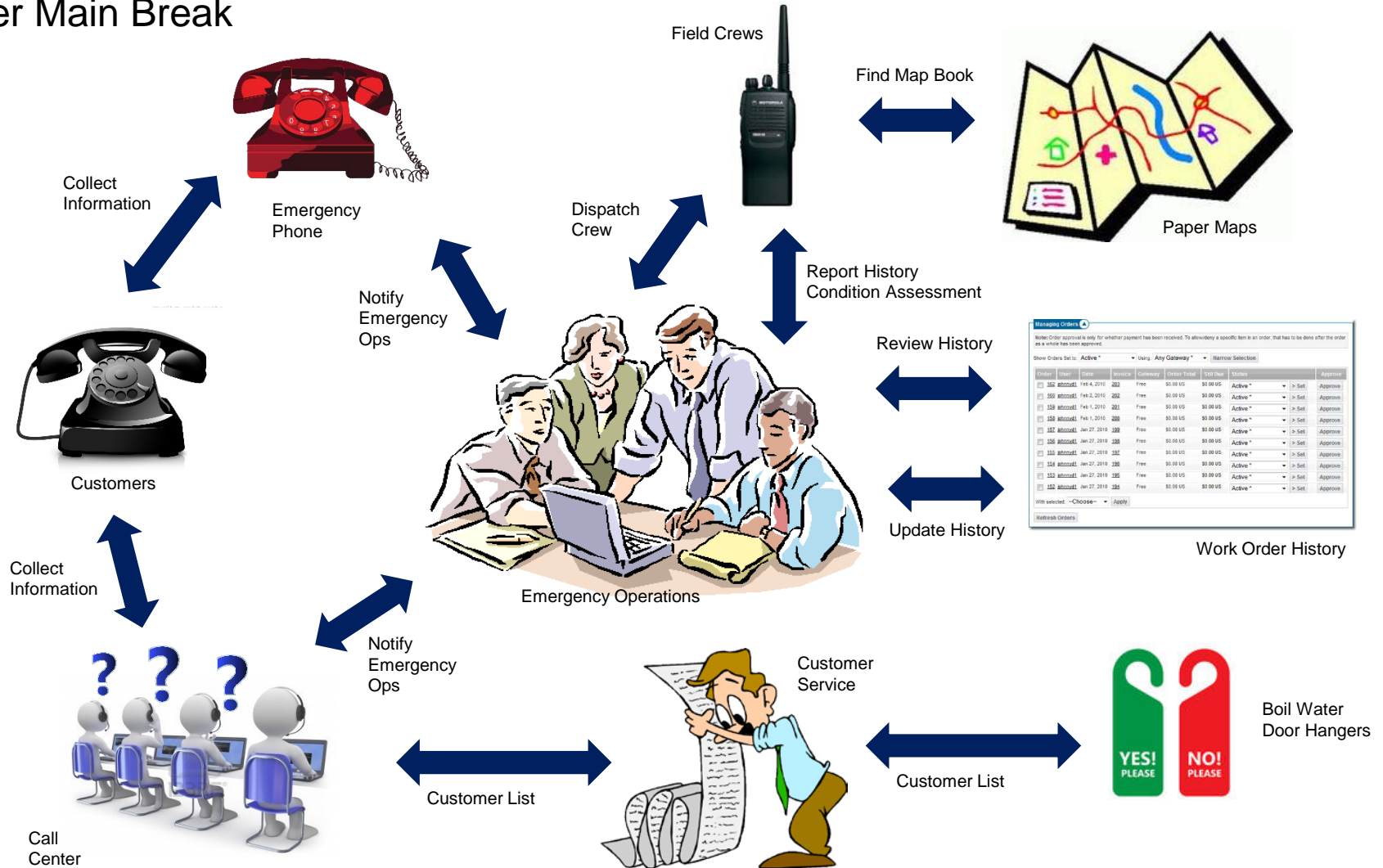- Elimination of paper
- Real-time monitoring & alerts

The Digital Profile

The **Digital Utility** is characterized by enabling capabilities that allow for proactive management of all aspects of the business. The **Digital Utility** thinks in the terms of a Systems View rather than a single application or transactional requirement. The lines of source systems blur for the **Digital Utility** as the focus shifts from collecting data to applying knowledge.
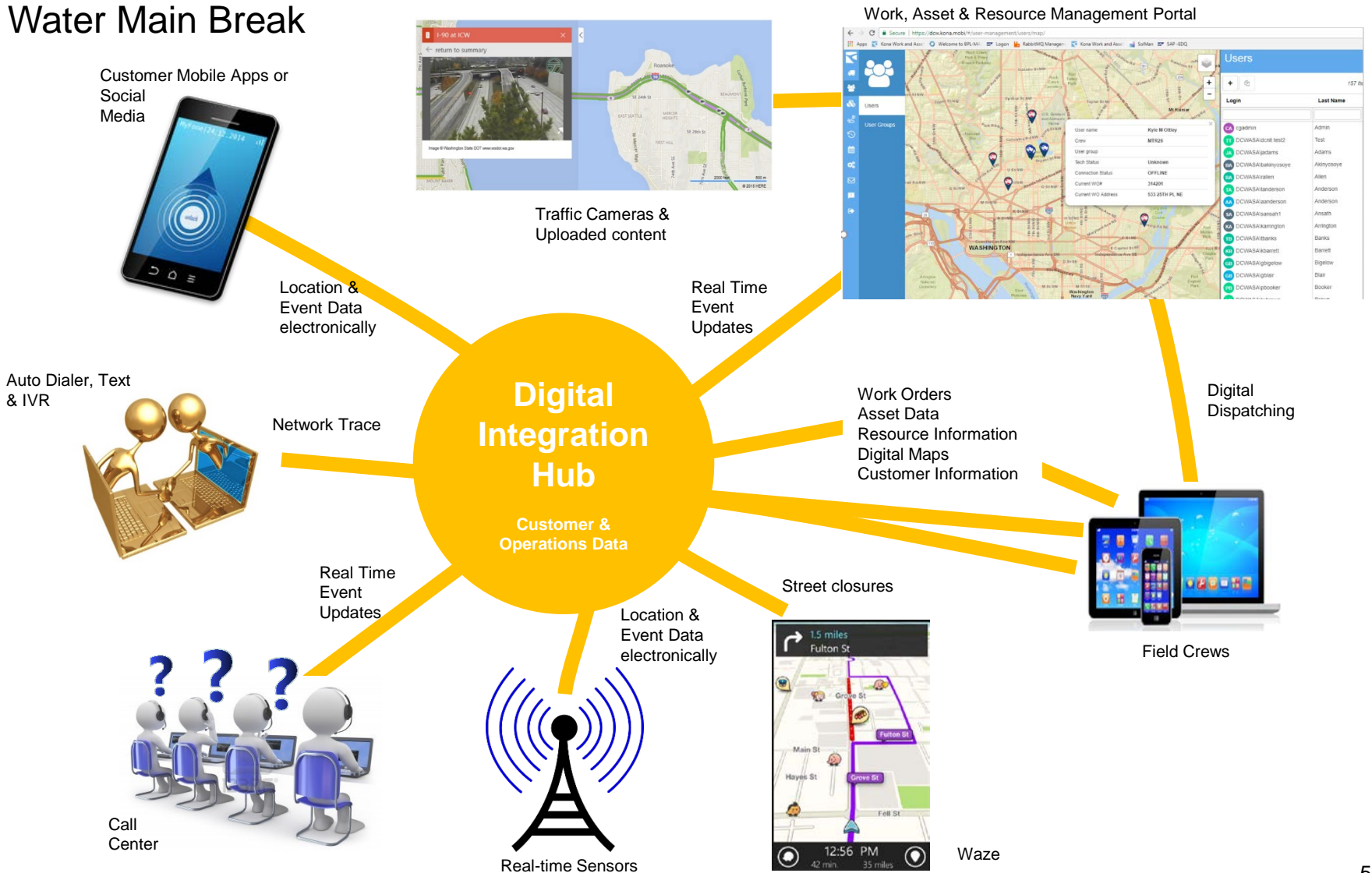
Digital Utility

ENABLING CAPABILITIES

Self-service portals	ePermits	Asset Management
Open Data	eSourcing	Digital waterways
Voice analytics	Water Quality monitoring	Predictive analytics
Digital correspondence	Outage management	Automated dispatching
3rd party portal	Leak detection	Dynamic operations
Customer Segmentation	Mobile Work Management	Video Analytics
HUNA	ePayments	Performance Monitoring
Real-time Alerts/Notices	Digital Dashboards	Just-in-Time
Interactive Voice Response	Pressure, level & flow monitoring	

Digital Utility Transformation

APPLICATIONS

Customer Information	Finance & Accounting	Maximo
Automated Meter Reading	Materials Management	eLogger
Payment Processing	Procurement	SCADA
Call Management	Inventory Management	PCS
		GIS

3

Traditional Process

Water Main Break

Collect Information

Emergency Phone

Field Crews

Find Map Book

Paper Maps

Dispatch Crew

Notify Emergency Ops

Report History Condition Assessment

Review History

Customers

Emergency Operations

Update History

Work Order History

Collect Information

Notify Emergency Ops

Customer Service

Boil Water Door Hangers

Call Center

Customer List

Customer List

Digital Enablement

Water Main Break

Customer Mobile Apps or Social Media

Auto Dialer, Text & IVR

Traffic Cameras & Uploaded content

Work, Asset & Resource Management Portal

Location & Event Data electronically

Real Time Event Updates

Network Trace

Digital Integration Hub

Customer & Operations Data

Work Orders
Asset Data
Resource Information
Digital Maps
Customer Information

Digital Dispatching

Real Time Event Updates

Location & Event Data electronically

Street closures

Call Center

Real-time Sensors

Waze

Field Crews

The Digital Utility Transformation

The existence of digital silos and digital islands coupled with the absence of an enterprise data model and standard definitions for core information assets prevents the organization from transitioning to a *Digital Utility*. Synchronization problems persist and more time is spent proving results rather than analyzing trends and driving performance improvements.

Digital Silos

CIS	PCS	Lawson
MDM	SCADA	Ceridian
Social Media	GIS	Dayforce
3PP	Innoyze	Pipeline
Customer Portal	eLogger	Materials Mgmt
Website	Maximo	
	Fleetwave	

Characteristics:
Excessive data gathering
Extensive production cycle
Limited sharing
Limited analytics
Limited time for decision making
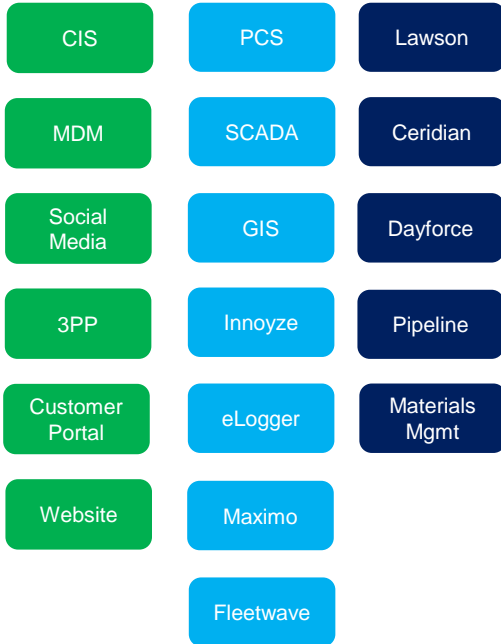
The high-level enterprise data model is influenced by 3 primary entities:

CUSTOMER
The information assets that define our customers and the relationships with them. Systems that contain customer data include: CIS, Collections, Meter Reading, Social Media, Customer Portal, 3PP

OPERATIONS
The information assets that define the operational activities the company performs. Systems that contain operational information include: PCS, SCADA, P16, Innovyze , eLogger, Maximo

ADMINISTRATIVE
The information assets that define the support functions required to run the company. Systems that contain support data include: Dayforce, Ceridian, Lawson, Pipeline

Common relationships exist between the primary entities but are not clearly defined and multiple interfaces exist to move data between applications. The absence of accurate meta-data can lead to inaccurate results and makes end-user reporting and analysis difficult.

Digital Utility

Customer

Operations

Administrative
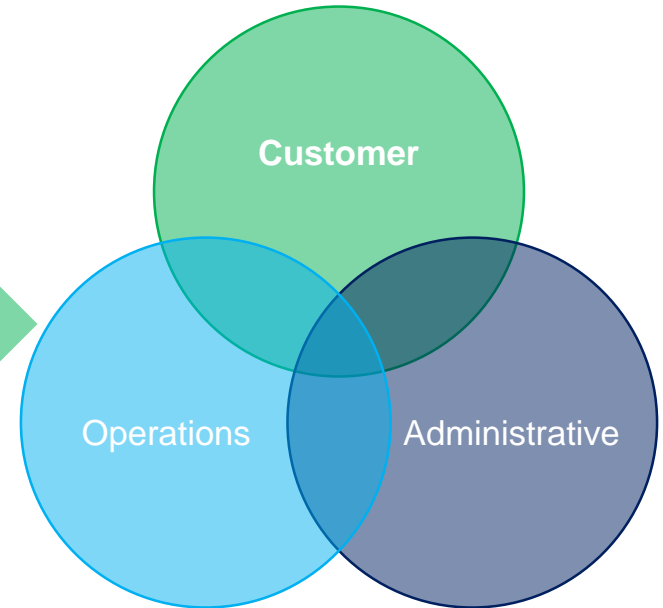
Characteristics:
Automated data gathering
Automated data production
Seamless sharing
Automated & adhoc analysis
Informed decision making

Other Opportunities

- AMI
  - Analyze usage to identify potential leaks and alert customers
  - Overlay AMI usage to create dynamic/virtual DMA's
  - Monitor large meter performance
- Use pattern recognition technology to replace manual CCTV reviews
- Customer Segmentation to improve collections
- Integrate construction and inspection activities with Asset Management to monitor "as building" activities rather wait for "As-Built"
- Applications for 3rd party activity tracking, BPA Testing, Service installations, Permits, hydrant use
- Real-time monitoring of asset performance against baseline
- Drones for asset inspections