REGULAR SESSION –WEDNESDAY, AUGUST 18, 2021

STATE OF KANSAS)
) SS
CITY OF KANSAS CITY)

The Board of Public Utilities of Kansas City, Kansas (aka BPU, We, Us, Our) met remotely in Regular Session on Wednesday, August 18, 2021 at 6:00 P.M. The following Board Members were on the teleconference: Robert L. Milan, President; Mary Gonzales, Vice President; Rose Mulvany Henry, Secretary; Jeff Bryant, Thomas Groneman, and Ryan Eidson.

Also on teleconference: William Johnson, General Manager; Angela Lawson, Deputy Chief Counsel; Jeremy Ash, Executive Director Electric Operations; Johnetta Hinson, Executive Director Customer Service; Steve Green, Executive Director Water Operations; Jerry Ohmes, Executive Director Electric Supply; Jerry Sullivan, Chief Information Officer; David Mehlhaff, Chief Communications Officer; Randy Otting, Director Accounting; Dennis Dumovich, Director of Human Resources; Andrew Ferris, Director Electric Supply Planning; Ingrid Setzler, Director Environmental Services; Robert Kamp, IT Project Manager; and Patrice Townsend, Director Utility Services.

A tape of this meeting is on file at the Board of Public Utilities.

(Made out of order) Mr. Milan called the Board Meeting to order at 6:01 P.M. He welcomed all that were listening or viewing the meeting. He stated that the Board felt it was necessary to offer the use of technology for staff as well as for the general public. Those wishing to offer comments during the Public Comments section could click on the raised hand feature at the bottom of the application or window or press Star 9 and be connected by phone. As always, the public could email or call the BPU with any concerns. The agenda could be found on the BPU website. If they were using Zoom, it would appear on their screen. Mr. Milan introduced himself and the other Board Members along with the General Manager, and Legal Counsel.

Roll call was taken and all Board Members were present via teleconference.

Item #3 – Approval of Agenda

A motion was made to approve the Agenda by Ms. Mulvany Henry, seconded by Ms. Gonzales, and unanimously carried.

Item #4 – Approval of Work Session Minutes

A motion was made to approve the minutes of the Work Session of August 4, 2021 by Mr. Bryant, seconded by Ms. Gonzales, and unanimously carried.

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Item #5 – Approval of Regular Session Minutes

A motion was not made to approve the minutes of the Regular Session of August 4, 2021.

Item #6 – Public Comments

Mr. William Johnson, General Manager, asked Mr. Robert Kamp, IT Project Manager, if there were any visitors wishing to speak.

Mr. Brian Matlock, 512 N. Thompson, hoped that BPU would be able to work with those at the Community Health Improvement Plan (CHIP) if funding from the American Rescue Plan Act (ARPA) came through to help with utility bills. He was also curious about our plans regarding renewables.

Mr. Johnson and Mr. David Mehlhaff, Chief Communications Officer addressed Mr. Matlock's inquiries.

Item #7 – General Manager / Staff Reports

i. *COVID-19 Update:* Mr. Johnson gave an update on company COVID-19 matters.

ii. *Electric Operations Quarterly Report*: Jeremy Ash, Executive Director Electric Operations gave a PowerPoint presentation to update the Board on Electric Operations including; team member updates as well as initiatives in the areas of transmission, distribution, reliability, and Service Center improvements (see attached).

Mr. Ash addressed question and comments from the Board.

iii. *Information Technology Quarterly Report:* Mr. Jerry Sullivan, Chief Information Officer, gave a PowerPoint presentation to talk to the Board about the future of information technology and how it related to BPU. (see attached)

Mr. Sullivan addressed question and comments from the Board.

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iv. *Delegates for Western Fuels 2021 Annual Meeting Resolution #5265:* Mr. Johnson asked the Board for approval for himself and Mr. Dong Quach, Executive Director Electric Production, to serve as delegates for the 2021 Western Fuels Annual Meeting.

A motion was made to approve the Resolution #5265 of August 4, 2021 by Ms. Gonzales, seconded by Mr. Bryant, and unanimously carried.

v. *Miscellaneous Comments:* Mr. Johnson followed up on the discussion regarding the Economic Development policy.

It was decided to put it on a future Work Session agenda for further discussion.

After discussion regarding the possibility of changing the dates of the September 2021 meetings, it was determined that it would be best to keep them on their original dates.

There was also further discussion on future agendas and how to navigate meeting in person as well as virtually.

Mr. Johnson also wished Mr. Bryant an upcoming happy birthday.

Item #8 – Board Comments

Mr. Eidson wished Mr. Bryant a happy birthday and thanked staff for the evening's presentations.

Mr. Groneman expressed appreciation for the work put into the presentations. He also commented on the ARPA funding, reminding that this was along the lines of what he had suggested during previous Board discussions. He was pleased to hear that the UG was considering hiring someone to assist with applications. Working with the groups that are making sure money gets to people in need would be a win/win situation.

Mr. Bryant thanked staff for making sure the Board had PowerPoints from the presentations as there was a lot of information. He informed the Board of his availability for the upcoming Special Session and thanked everyone for the birthday wishes.

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Ms. Gonzales echoed the previous comments about the evening's presentations. She also wished Mr. Bryant a happy birthday and anniversary.

Ms. Mulvany Henry thanked the presenters. She also wished Mr. Bryant a happy birthday and anniversary.

Mr. Milan echoed the previous comments. He was glad to learn more about team members and impressed by the team concepts he was seeing.

Item #9 – Adjourn

A motion was made to adjourn the Regular Session at 7:57 P.M. by Mr. Bryant, seconded by Ms. Mulvany Henry, and unanimously carried.

ATTEST:

DocuSigned by:
Rose Mulvany Henry
732C225A5806456...
Secretary

APPROVED:

Robert Milan Sr
President

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Electric Operations Update
August 18, 2021

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Update Overview

- Key Team Members
- Transmission & Distribution Update and Initiatives
- Reliability Initiatives
- Service Center Improvement Initiatives
- Questions?

Electric Operations Key Team Members

- Patrick Morrill, PE – Director of Electrical Engineering
- Darrin McNew, PE – Director of Substation Ops & Engineering
- Mark McNally – Substation Superintendent
- Scott Paramore, PE – Supervisor Substation Engineering
- Mike Fergus – Director Distribution & Services
- Antonio Marin – Distribution Superintendent
- Jeff Sanders – Interim Distribution Superintendent
- Darrick Spears – Distribution Superintendent
- Paul Howell – Distribution Superintendent
- Jason McVay – Superintendent Fleet Operations

BPU Electric System

- Electric Transmission Lines = 117.9 Miles
- Electric Distribution Lines = 3,011 Miles

- Manholes = 755
- Poles – 61,319
  - Transformers = 17,032
  - OH & UG Switches = 1,544
  - Fuse Locations = 3,638
  - Capacitor Banks = 150

Transmission & Distribution

- 2020 End of Year Poles Changed – 930
- 2020 End of Year Feet of OH Primary – 47,643
- 2020 End of Year Feet of UG Primary Cable – 35,287
- 2020 End of Year Street Lights Repaired – 1,863
- 2020 End of Year Meters Changed Out – 7,154
- 2021 End of July Poles Changed – 344
- 2021 End of July Feet of OH Primary – 9,283
- 2021 End of July Feet of UG Primary Cable – 27,515
- 2021 End of July Street Lights Repaired – 202
- 2021End of July Meters Changed Out – 3,826

Transmission & Distribution

- Speaker Substation Retrofit – Complete
- Rosedale to Fisher Duct Bank – Complete
- Piper Feeders – Design & BOM Complete, Bid Process Beginning**
- VW to Quindaro 69KV – Design & BOM Complete, Awaiting Material
- VW to Maywood 69KV - Design & BOM Complete, Awaiting Material
- G&W Switch Replacement – 3 Remaining at KCKCC, 3 Remaining in Distribution System (EOY)
- Streetlight Retrofit – Ongoing & Partnership with UG for Spec & Budget

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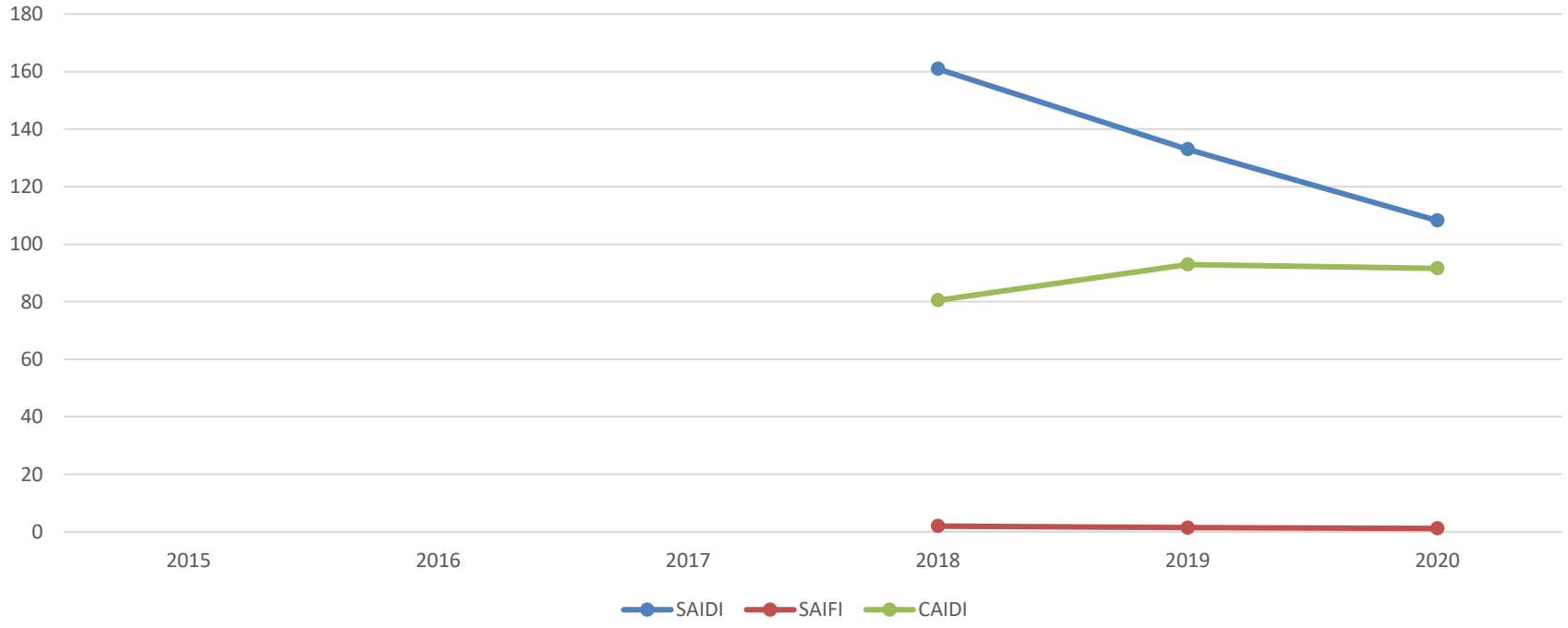
Reliability Indicies

- ASAI – overall availability of the electric system
- MAIA – average number of momentary interruptions
- SAIFI – frequency of customer interruptions
- SAIDI – average outage duration
- CAIDI – average restoration time for interruptions

BPU Reliability Performance



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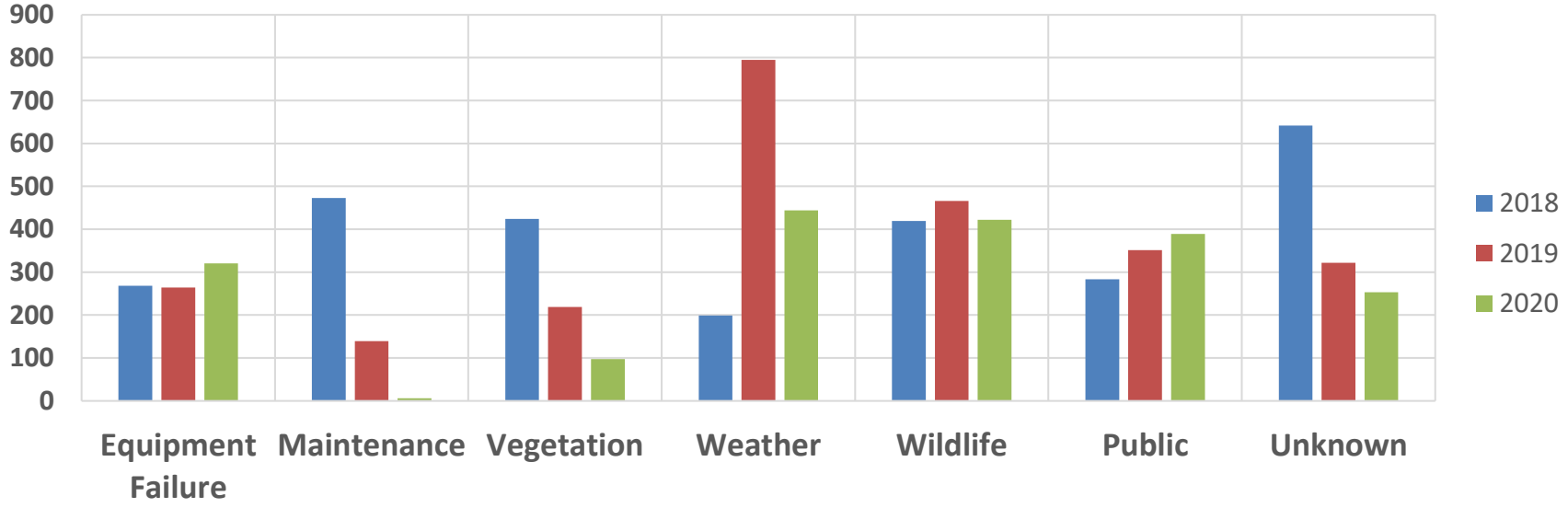
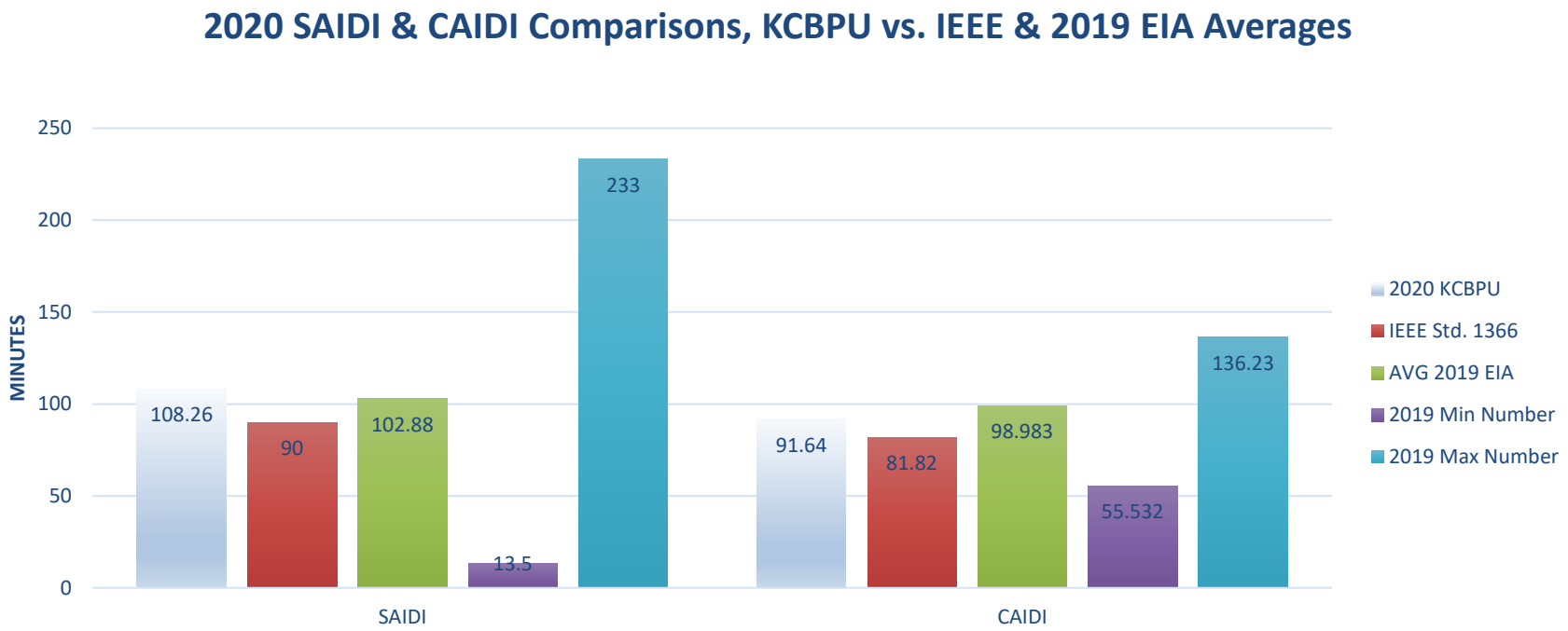
BPU Outage Statistics

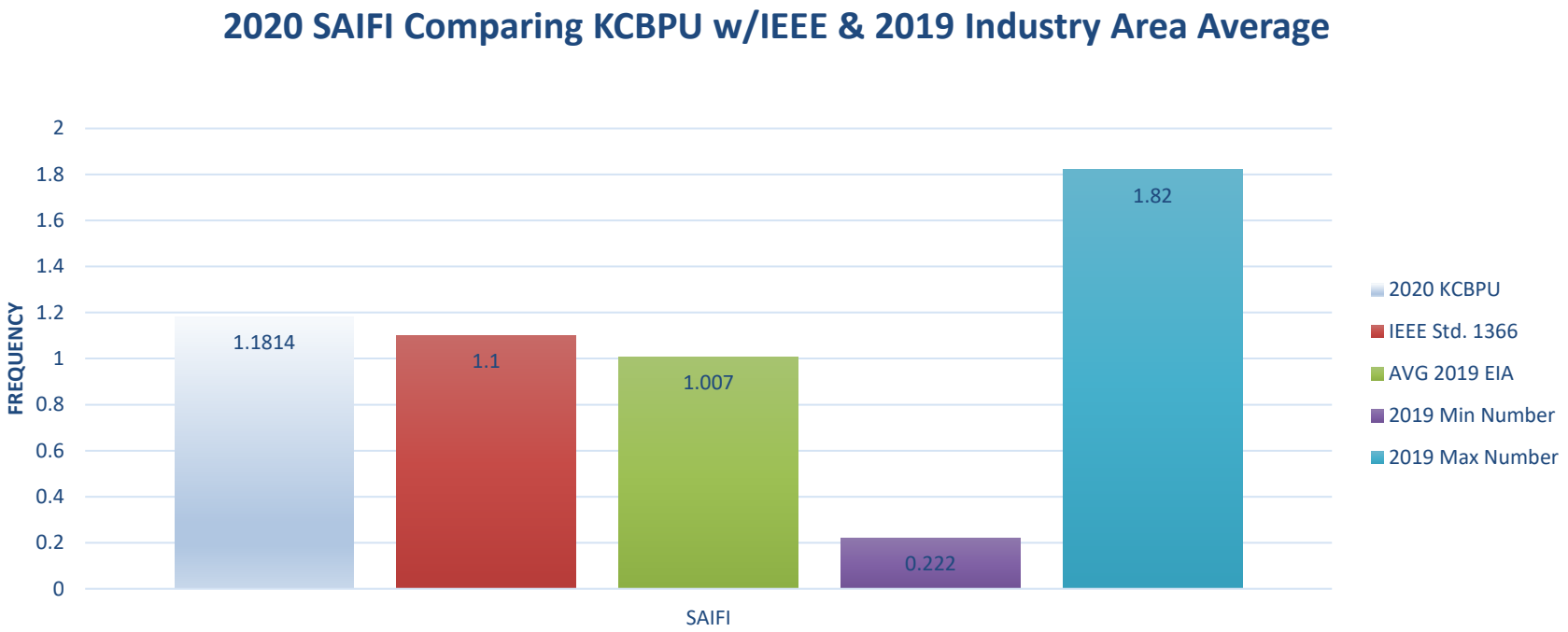
Outage Trends By Cause



BPU Peer Comparison



BPU Peer Comparison



Reliability Initiatives

- Continued Focus on Vegetation Management
- Refine Construction Specs – System Hardening
- Focus on Consistent Systems & Tech Data Entry
- Continued Focus on Field Efficiencies
- Continue System Wide Pole Inspection Program
- Underground Cabling and Switch Replacement

Vegetation Management

Trim Schedule

- 2021 – Will Clear 19 Circuits
- 2022 – Will Clear 21 Circuits
- 2023 – Will Clear 21 Circuits

Trim Specifications

- 15kV Distribution - 10 feet
- 69kV Transmission - 20 feet
- 161kV Transmission - 22 feet

Pole Inspection Statistics

2020:
Pole Inspected – 4,964
Failure Rate 8.4%
Treated 85%
Oldest Pole Replaced – 1925

2021:
Pole Inspected – 4,555
Failure Rate 11.4%
Treated 87%
Oldest Pole Replaced – 1940

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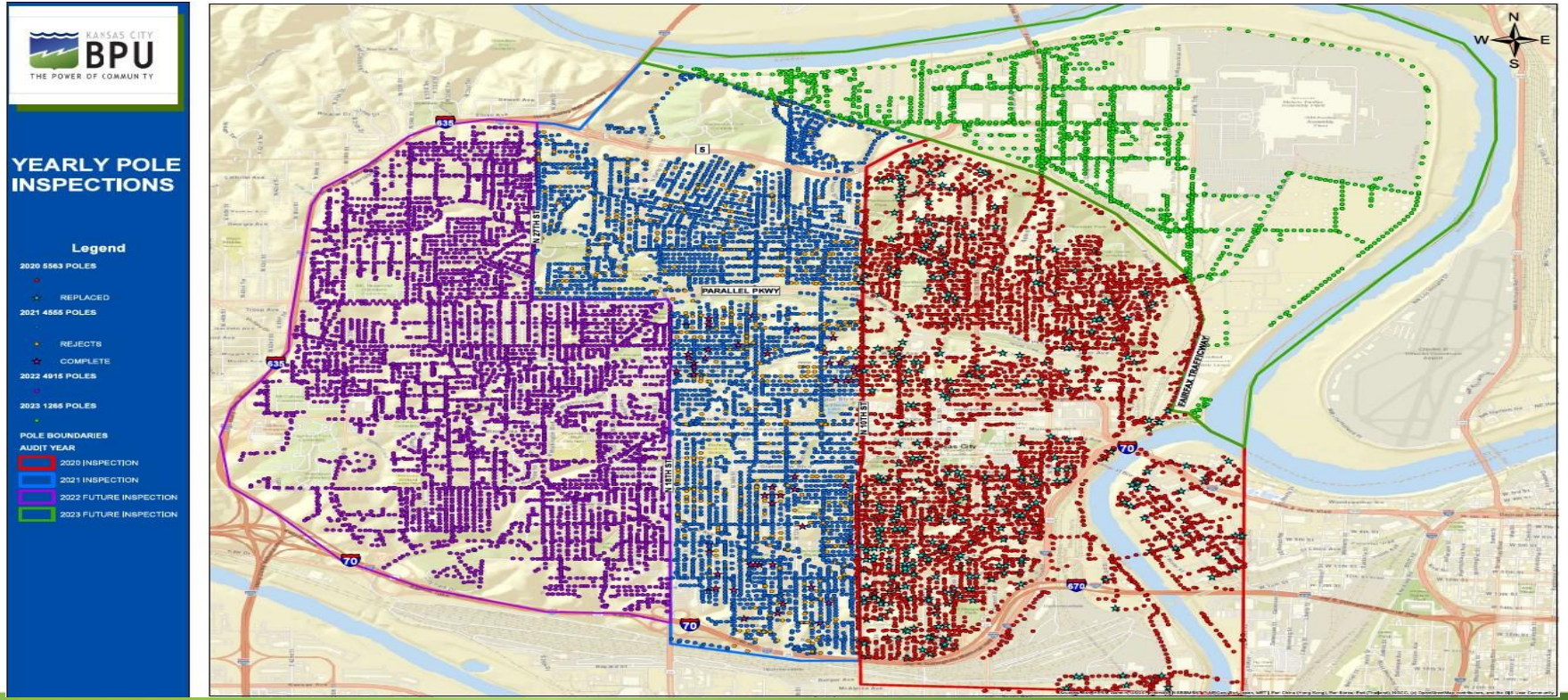
Pole Inspection Footprint



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Service Center Improvements

Service Center Improvements

Large Meeting Room

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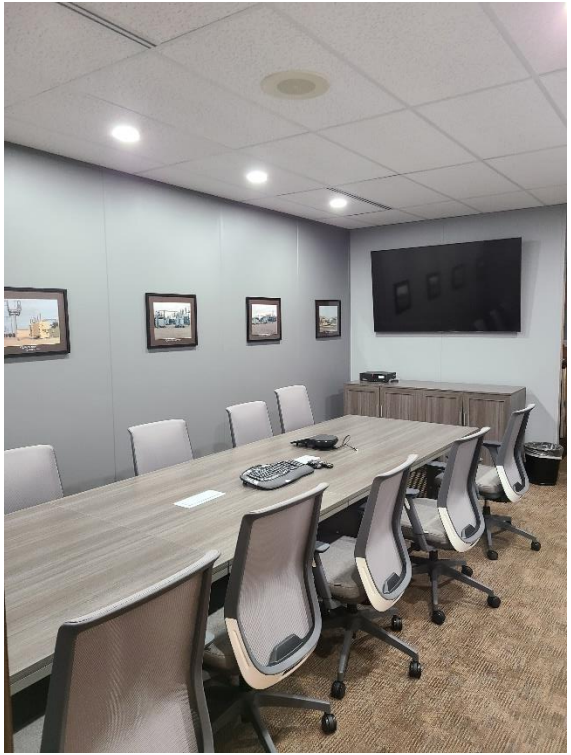
Service Center Improvements



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Fleet Metrics

	COMMON	ELEC OPS	ELEC PROD	WATER	TOTAL
Fleet:					
Number of Vehicles					
OFF ROAD	12	25	38	29	104
ON ROAD	11	150	32	79	272
					376
Fuel:					
Total Fuel Cost					
DIESEL	$1,462.13	$80,171.44	$30,151.75	$60,575.45	$172,360.77
E-85	$1,925.85	$31,581.61	$4,465.78	$26,233.54	$64,206.78
GASOLINE	$599.54	$31,899.64	$5,451.35	$13,423.73	$51,374.26
					$287,941.81
Unit Utilization:					
Total Unit Utilitzation					
HOURS OFF ROAD	818.0	23,206.0	5,465.0	18,440.0	47,929.0
MILES ON ROAD	29,996.0	495,593.0	48,594.0	318,357.0	892,540.0
Unit Repairs:					
Total Unit Repair Cost					
ACCIDENTS	$0.00	$2,677.16	$0.00	$1,404.40	$4,081.56
PM'S	$10,418.20	$75,029.27	$26,384.23	$61,893.28	$173,724.98
REPAIRS	$6,791.09	$189,732.28	$49,896.00	$111,383.04	$357,802.41
					$535,608.95

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Fleet Metrics

2017	Elec Ops	$1,100,000	$1,087,911.79	15	8.71%
2017	Elec Prod	$111,000	$107,400.80	1	
2017	Water	$981,500	$970,298.93	12	
2017	Common	$125,500	$123,628.63	2	
2018	Elec Ops	$1,100,000	$1,074,641.27	17	9.49%
2018	Elec Prod	$100,000	$58,592.00	2	
2018	Water	$640,000	$416,380.60	13	
2018	Common	$100,000	$102,005.04	2	
2019	Elec Ops	$550,000	$618,912.29	7	3.07%
2019	Elec Prod	$150,000	$135,589.55	3	
2019	Water	$645,000	$135,398.00	2	
2019	Common	N/A	N/A	0	
2020	Elec Ops	$850,000	$616,933.15	5	1.32%
2020	Elec Prod	$20,000	$0	0	
2020	Water	$425,000	$204,390.00	1	
2020	Common	N/A	N/A	0	
2021	Elec Ops	$850,000	$628,726.29	13	3.70%
2021	Elec Prod	$350,000	$0	0	
2021	Water	$169,000	$43,858.14	1	
2021	Common	N/A	N/A	0	

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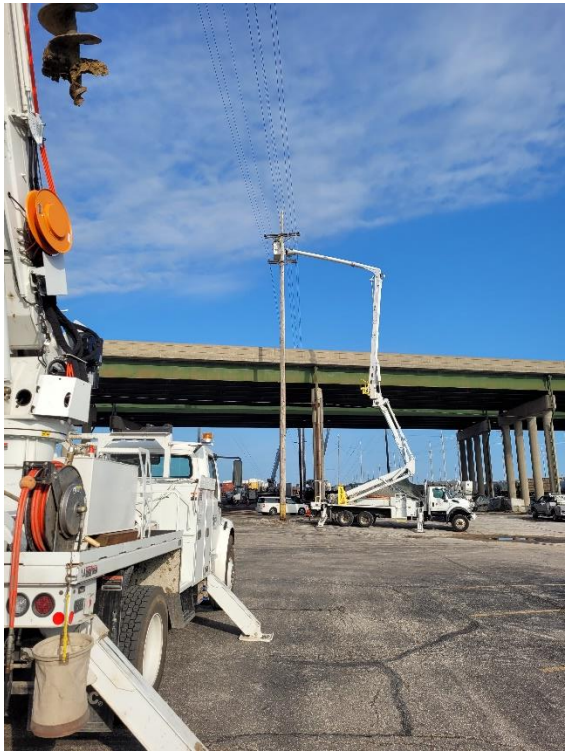
Thank You



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Utility of the Future

Industry and Technology Trends

August 18, 2021

3 Related Topics Today

- Transformational Changes in our Industry
- Connecting the future to BPU today
- BPU's IT Strategic Plan

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Industry Research of over 250 Utility CEOs

78%

of distribution executives expect the energy transition to trigger a tipping point that will disrupt operations and require capital investment.

86%

of distribution executives think their business will reach the tipping point of disruption within the next decade.

100%

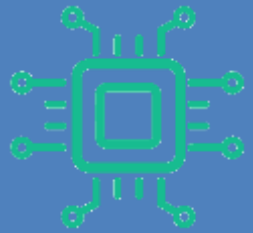
of distribution executives report already experiencing some form of energy transition-related disruption in their operations.

68%

of distribution executives believe the tipping point will be caused by the growth in total supply provided by grid-connected distributed generation.

Based on 2020 research conducted by Gartner and Accenture

The Four D's affecting Utilities



1. Digitalization

2. Decentralization

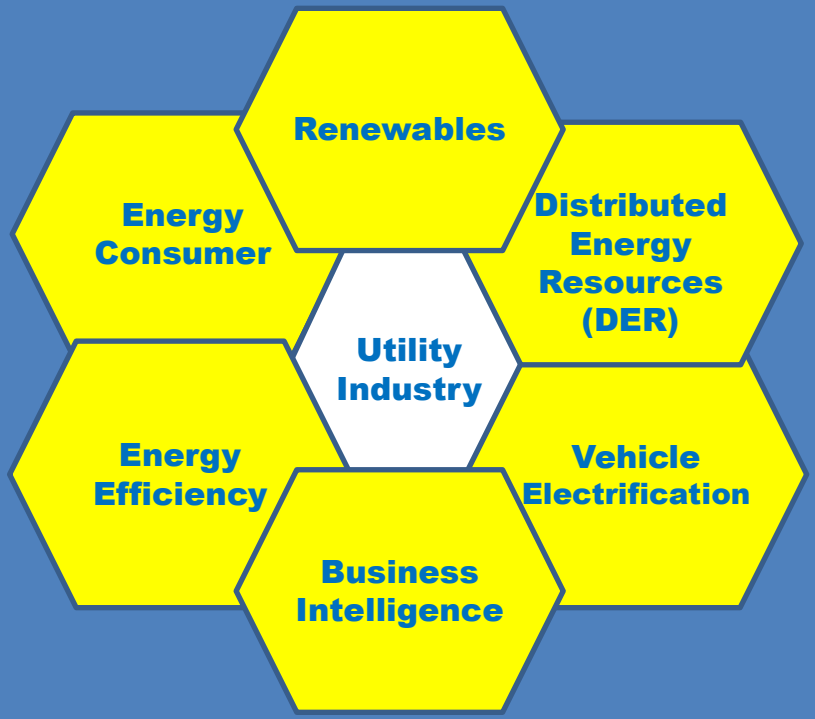
3. Democratization

4. Decarbonization

Six Game Changers

CHARACTERISTICS

- Ramping Up
- Proliferation
- Exponential Growth
- Instant Intelligence is Everywhere
- Innovation
- Consumer, business and government activism



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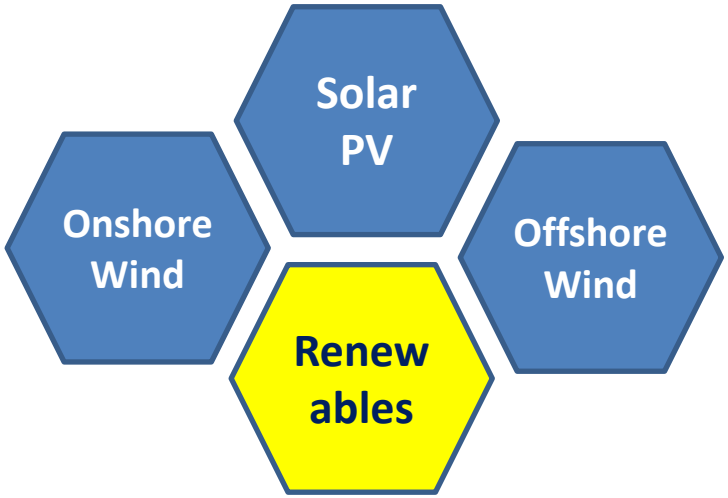
1. Renewables

Renewables Ramp Up

- The need to decarbonize the power model is pushing renewables deployment – particularly Wind and Solar – to absorb 2/3 of future power-generation investments
  - Solar PV
    - Community Solar
    - Rooftop
  - Onshore Wind
  - Offshore Wind



As costs improve for renewables, it will put downward pressure on costs for traditional generation, however regulation (costs) for traditional generation will continue to increase.

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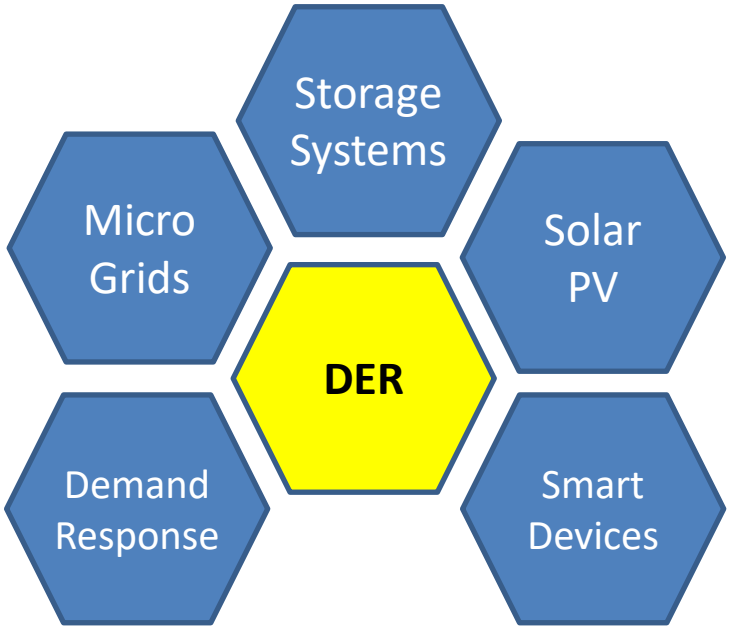
2. Distributed Energy Resources (DER)

DER Proliferation

- Decreasing costs improves the case for rooftop PV, batteries and microgrids driving to a more decentralized power model



As more and more industries, and large commercial customers opt for DER, impacts will be on load profiles and reduced demand (revenue) for BPU generation (and distribution).

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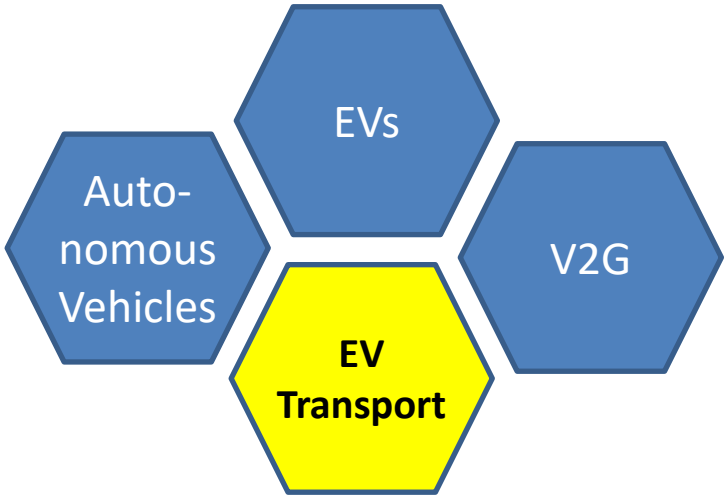
3. Electronic Vehicle Transport

Exponential Transport Electrification

- Paradigm shift: from owned oil fueled cars to electric and potentially autonomous and shared vehicles.
- Plug in anxiety may force a transition from gasoline engines to plug-in hybrid before adoption of full electric only cars
- Opportunity to offset demand slowdown while driving environmental benefits and engage consumers



The high cost of EVs and the low resale values will hinder adoption. The next three years will bring EVs in more shapes, sizes, and price points. Tesla is the strong leader.

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4. Consumer/Gov't/ Business Activism

Energy Consumer Activism

- New values beyond price such as eco concerns. Consumers are adopting a more active role in increasing self-supply and optimizing consumption. Digital interactions are the new norm.

Activism by consumers is amplified by government legislation, and private industry is responding by offering options. The combination of consumer and production will form "prosumers" in this market.

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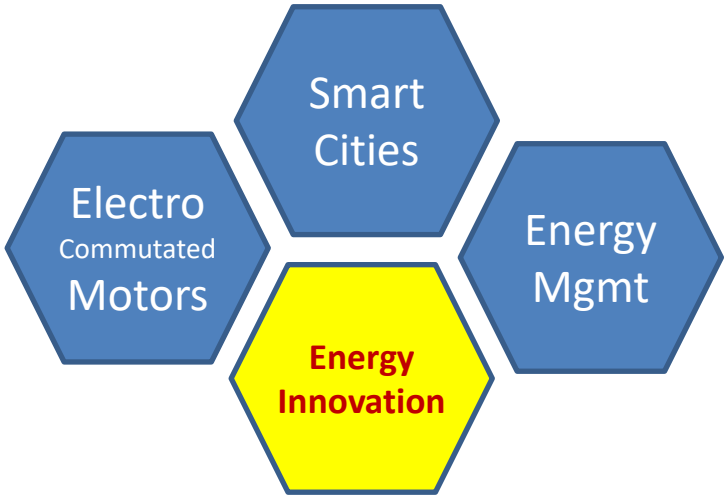
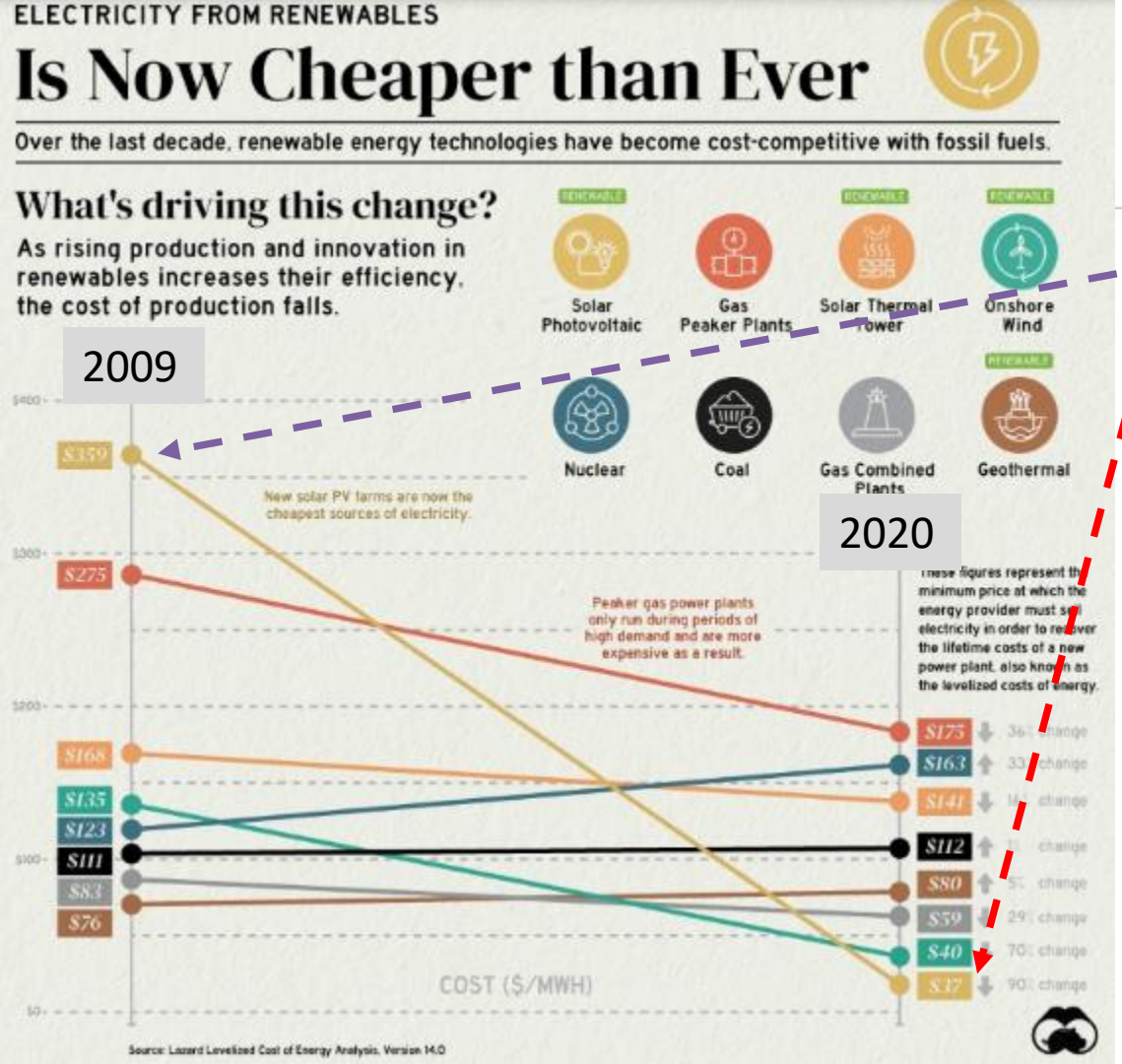
5. Energy-Efficiency Innovation

Energy Efficiency

- Energy consumption has decoupled from economic growth driven by Energy Efficiency challenging global demand growth



Major cities are moving to Smart Cities. Consumers expect Energy Management in all aspects of consumption; and industries are innovating their use of EC motors



Be careful of solar hype

Although solar is cheaper than other forms of energy, its energy is not economically stored, and the capacity (run-time) is limited to a few hours a day.

Technology is changing, it is improving, and getting cheaper.

A major point on electric storage:

1. Extremely expensive
2. Not currently feasible
3. High toxic waste

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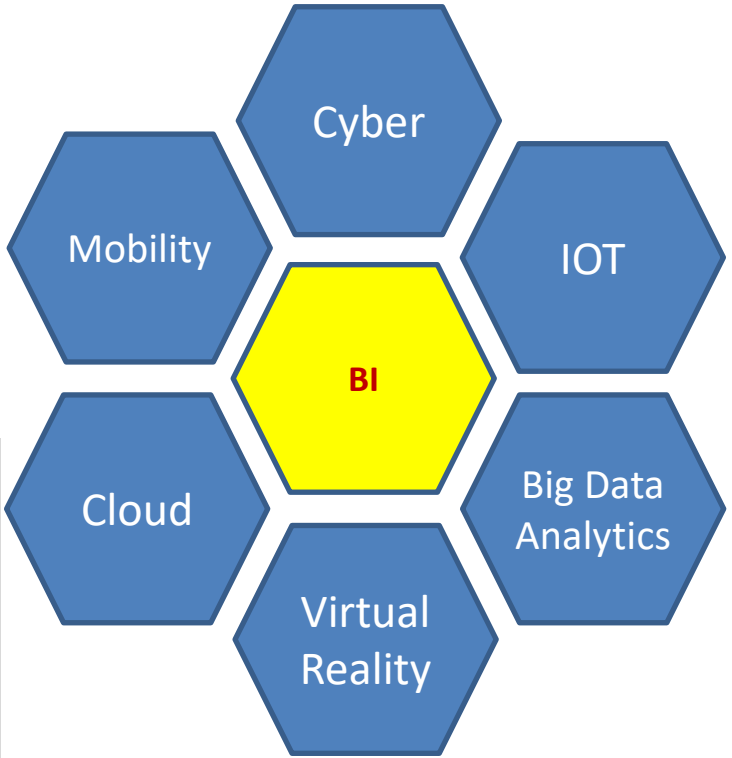
6. Business Intelligence (BI)

Instant BI

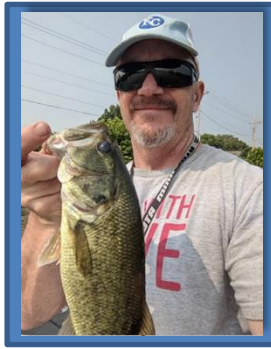
- Digital plays a central role to transform both the power systems and utilities, enabling new business and operating models to generate additional revenue streams, and take efficiency to the next level

Business Intelligence, Data Visualization, AI enabled software, and Analytical tools is perhaps the biggest "game changer" for utility technology strategies for the remainder of this decade. Every software platform will need to integrate with most all other platforms.




• Transformational Changes in our Industry
• Connecting the future to BPU today
• BPU's IT Strategic Plan

Information Technology Reports



Brian Laverack
Director, Network Operations

Sperlynn Beyers
Acting Director, Information Technology

These are the IT leaders who make it happen…..

Robert Kamp
IT Project Manager

Richard Mena
Supervisor, Desktop Support

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BPU's Digital Enablement

PROCESS
Digitalization is changing every aspect of the utility business and driving increased value

→ BPU's emergence of **connected** applications has led to a need for increased operational performance with real-time analytics, enhanced safety of workers and assets. automation / AI is emerging and transforming processes.

TECHNOLOGY
Utilities have to transform **architecture** and engineering to deliver new digital platforms, which meet evolving consumer expectations

→ Future planned upgrades and technology platforms at BPU **will be more integrated**. Expectation of transparency / visibility into processes, ubiquity / seamless on-demand experiences across devices, sustainability, loyalty. Customers & technology will be interwoven.

SECURITY
Enhanced **security** needed to manage explosion of data and connected devices

→ BPU's **advanced security capabilities** are critical to maintaining data integrity across assets, sensors, connected devices, trucks, vendors/contractors and more. Devices will exchange data more readily.

PEOPLE & CULTURE
New digital capabilities **demand different skillsets and different culture / ways of working**

→ Workforce is aging while **infrastructure and digital systems require additional operational support**. Positions will require advanced knowledge of key digital capabilities**.**

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BPU's "Digital DNA"

1 Artificial Intelligence

2 Blockchain

3 IoT & Connected Devices

4 Drones & Robotics

5 Digital Worker

6 Analytics

7 EV Ecosystem

8 Cyber Security

9 Digital Twins

10 Microgrids / DER

11 Digital Organization

BPU is focused on core digital areas (highlighted) in the near term. The other areas are in the distant future.

Source: Accenture Research, IDC, Gartner.

Highlighted IT Projects

- Transformational Changes in our Industry
- Connecting the future to BPU today
- **BPU's IT Strategic Planning**

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OUR THINKING

The future of customer conversation

For internal and external customers: Multiple Channels such as Texting, Mobility Apps, Portals, Email

Companies are rethinking how they communicate with people and organize the entire business around the delivery of exceptional experiences.

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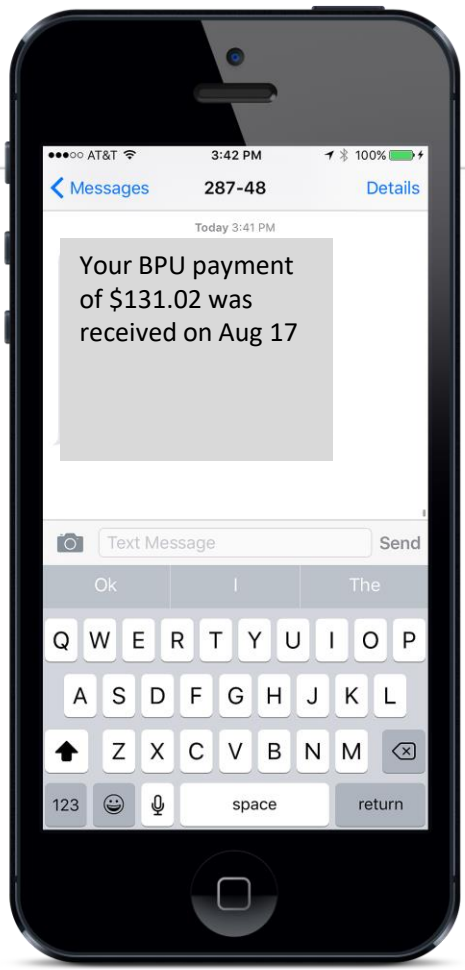
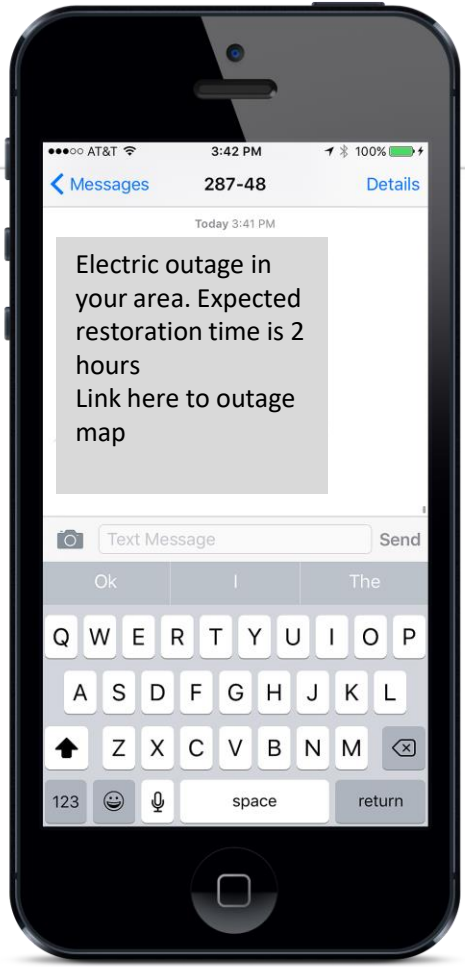
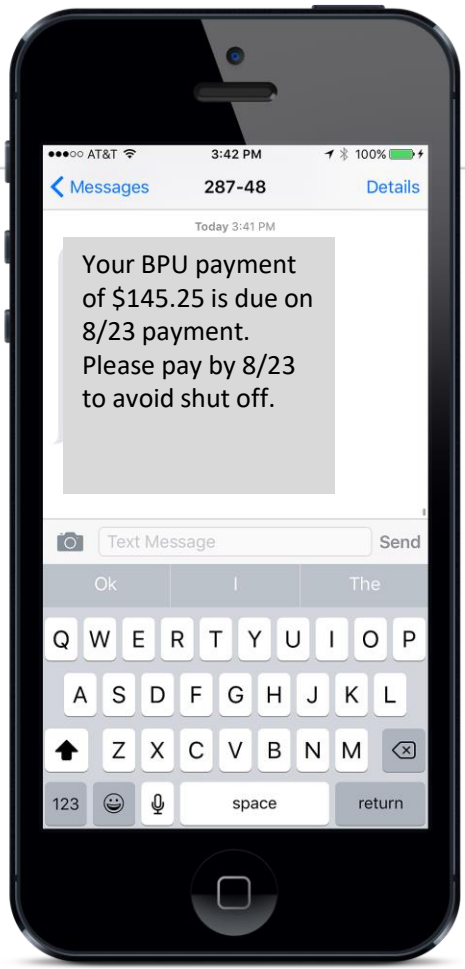
Over 25 use cases, examples

- Bill Pay messages
- Outage notifications
- Payment Reminders
- Other communications







BPU is Enabling Digital Trends

1. Connected Worker
Productivity significantly increases where technologies enable service and operational improvements

- **Projects: Maximo Mobility, GIS ESRI Collector, Map Viewer, Portal, Mobile devices, Barcode**

2. Edge Computing
The proliferation of sensors and applications on the peripheral of core applications provide a vast sum of useable data

- **Projects: OMS to SCADA, Trip Savers, Reclosers and projects in 2022 and beyond**

3. Ecosystem Mindset
Refine offerings and services to retain a stake in development of new microgrids

- **Projects: Digitalization and integration in MDM, Maximo, Netsense.**
  Future: EVs,

4. Data Visualizations
Analytics, combined with AI offer improved decision-making and better connections with customers

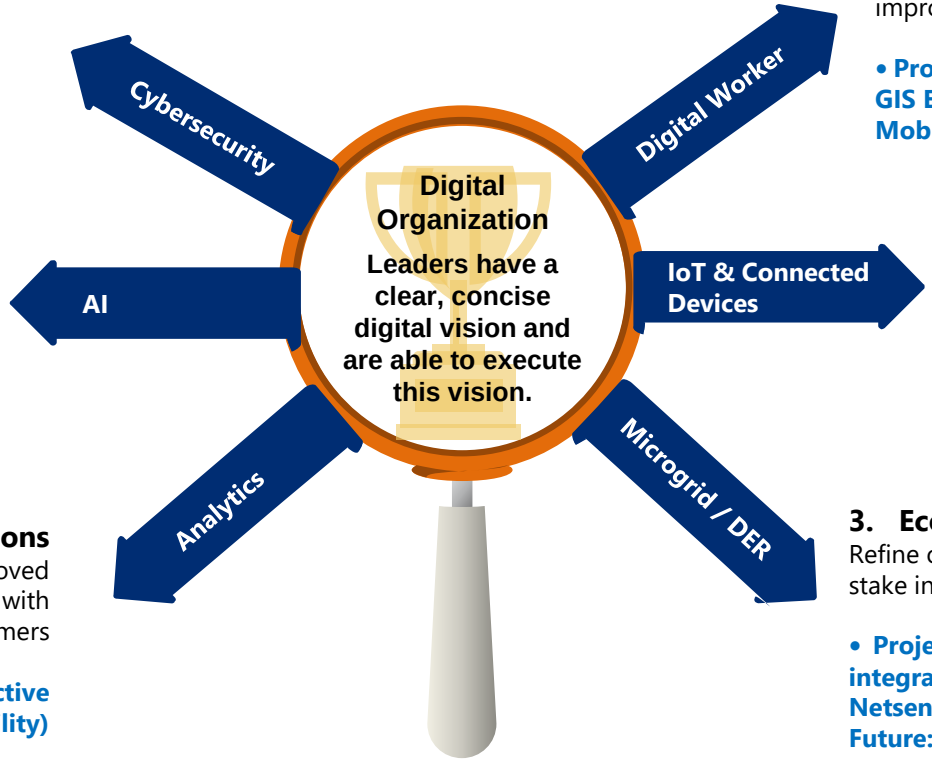
- **Projects: Tableau (Current and Predictive AI), Cognos (visualization capability)**

5. Harnessing Data
AI and Data visualizations
Future upgrades and technology platforms will be more integrated.

- **Projects: New BPU Portal; Sharepoint, Office 365, Maximo**

6. Situational Awareness
Employees, hardware, software, and integration provides visibility over assets, network, cyber and physical risks

- **Projects: NOC/SOC, Maximo Texting, IPS/IDS**



Information Technology Plan (1 of 4)

Initiative	Major Benefit	4 D's	Other Benefit	Status
1. Texting	Customer Satisfaction	Decentralization	Reduce calls	4Q 2021
2. Laptops	Remote work BC/DR	Decentralization	Collaboration	Completed
3. Office 365 / Teams	Standardization	Democratization	Collaboration	Pilot Phase
4. Storage	Solid State Storage	Digitalization	Reliability	In progress
5. DR / BC Servers	Virtualization	Digitalization	Reliability	1Q 2022
6. Identity Mgmt	Role / Identity Based Access	Digitalization	Cyber / Phys. Sec.	2Q 2022
7. DC Load Balancing	Efficient use of resources	Digitalization	Reliability	Completed
8. DR Build-out	Alternate work locations	Decentralization	Customer Focus	In progress
9. Nearman Water Firewall	Prevent cyber intrusion	Digitalization	Situational Awareness	Completed

Information Technology Plan (2 of 4)

	Major Benefit	4 D's	Other Benefit	Status
10. Paging Replace	Eliminate Analog systems	Digitalization	Communication	3Q 2021
11. Security Ops Center	Cyber Security (malware) and Situational Awareness	Digitalization	Reliability	4Q 2021
12. Network Ops Center	Situational Awareness	Democratization	Reliability	New in 2022
13. Email filtering	Reduce Spam	Digitalization	Cyber Security	3Q 2021
14. Intrusion Protection/ Det Sys.	Security	Digitalization	Cyber Security	1Q 2022
15. E911	Emergency Notification	Digitalization	Reliability	3Q 2021

Information Technology Plan (3 of 4)

	Major Benefit	4 D's	Other Benefit	Status
17. Cognos Reporting	Exception Reporting	Democratization	Collaboration	Post go live support
18. Meter Data Mgmt Sys	Replacing out of support major system	Digitalization	Customer Satisfaction	RFP stage
19. Bill Print Redesign	Replacing out of support of a major system	Digitalization	Customer Satisfaction	3Q 2021
20. Data Visualization using Tableau	Data Analytics / Predictive Analytics	Digitalization / Democratization	Better Decision Making	4Q 2021
21. Substation to Distribution (SCADA to OMS)	Reliability	Digitalization	Customer Satisfaction	Completed
22. Kronos Time Sys.	Technology upgrade	Digitalization	Ease of use	Completed

Information Technology Plan (4 of 4)

	Major Benefit	4 D's	Other Benefit	Status
23. Benefits Admin Upgrade	Technology upgrade, Self-service	Digitalization	Employee satisfaction	3Q 2021
★ 24. New BPU Portal Development	Major functional improvement	Digitalization / Democratization	Ease of access, sustainability	4Q 2021
★ 25. Sharepoint	Collaboration	Digitalization / Democratization	Document control, retention	4Q 2021
26. PeopleSoft HR Upgrade	Work flows, ACH Personnel management	Digitalization	Usability	Completed
27. Smartsheets	Project Management	Digitalization	Effective use of resources	4Q 2021
★ 28. Enterprise Learning Mgmt Upgrade	Technology upgrade	Democratization	People Development	Completed

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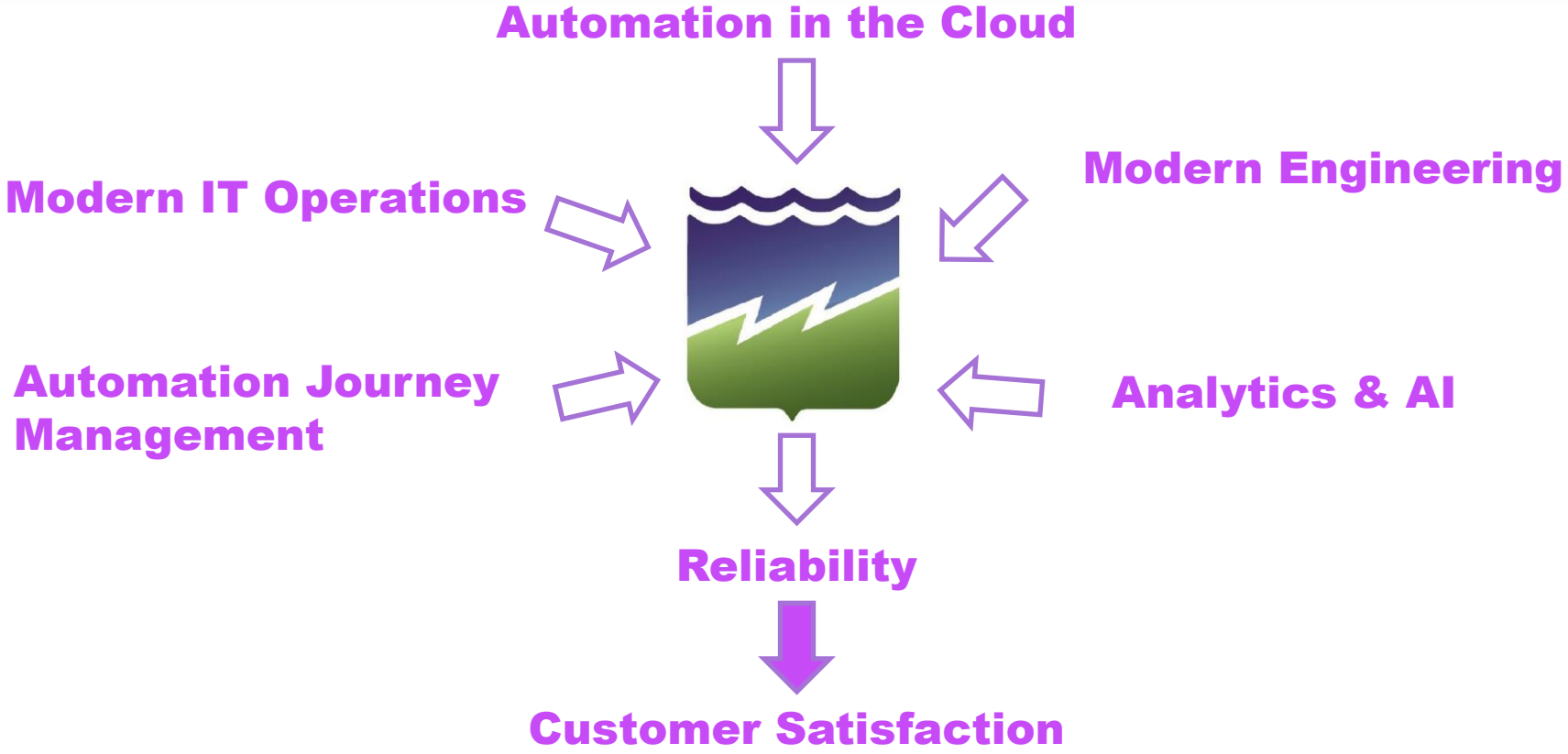

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QUESTIONS

AND
THANK YOU

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APPENDIX

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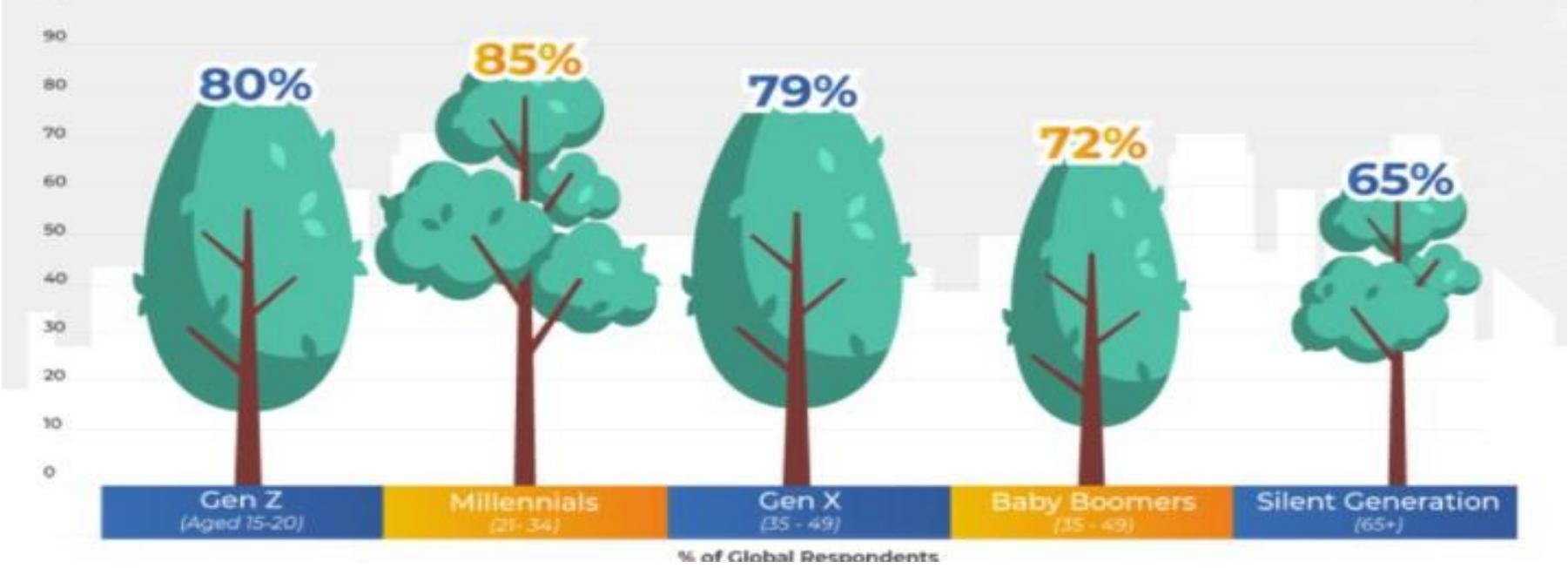
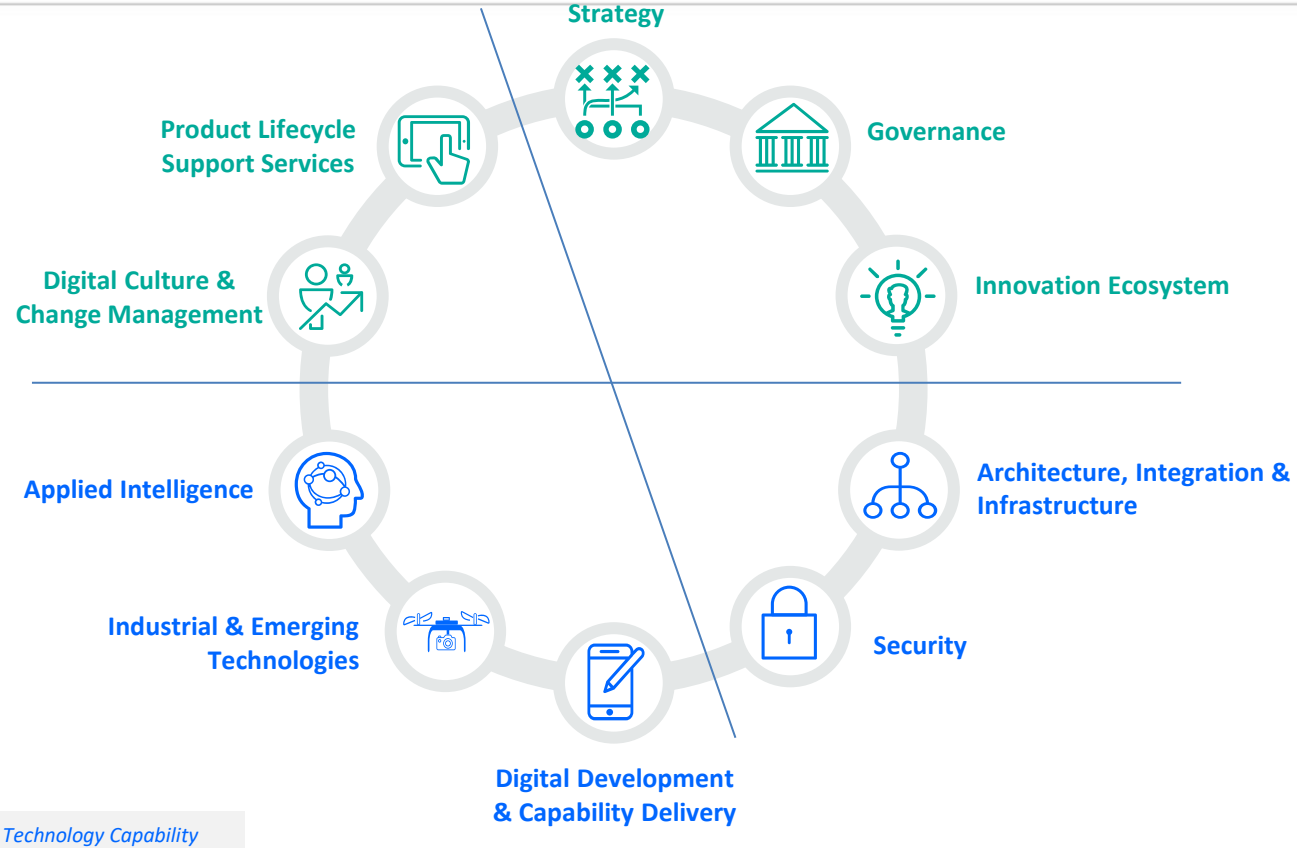
The attitudes are changing

Although polls may be biased based on the phrasing of questions, it is clear that the majority in each demographic, value/ appreciate programs that improve our environment.



Getting There from Here

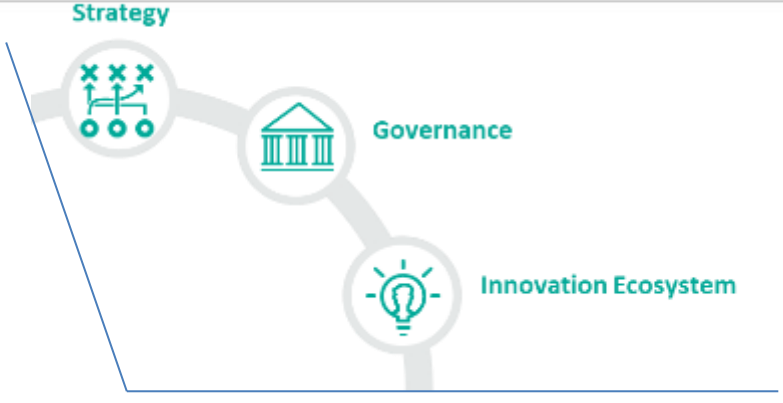


Digital Capabilities Slice 1

Functional Capability

Technology Capability

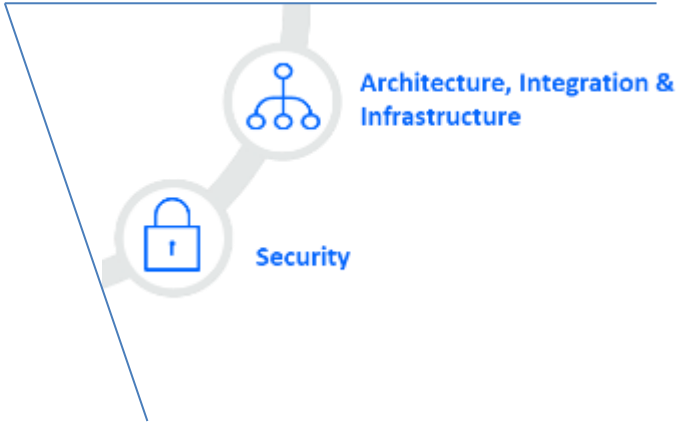
Digital Capabilities- Slice 2



Functional Capability

Technology Capability

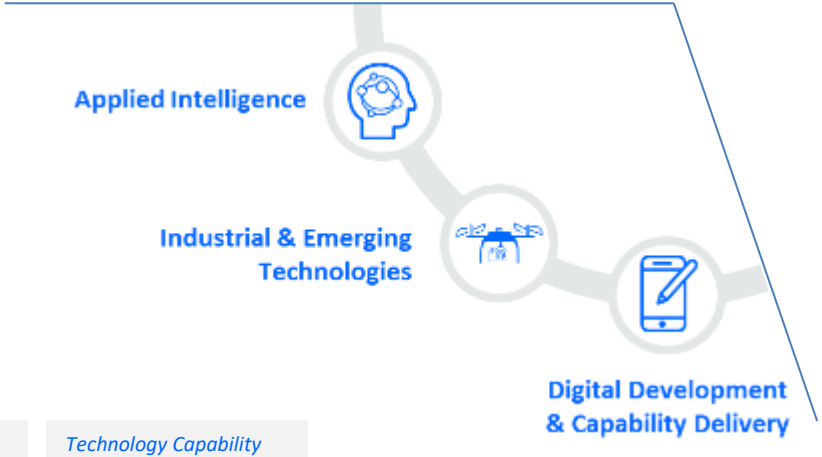
Digital Capabilities- Slice 3



Functional Capability

Technology Capability

Digital Capabilities – Slice 4



Functional Capability

Technology Capability