

# Modernization Workshop

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# Modernization Background

Modernization focuses on Prioritizing Strategic Projects that...

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- **Support Utilities Commission Vision:**

*“To be a community partner with safety as the priority, while providing reliable, essential utility services, dedicated to sustainable resources and community stewardship”*

- **Introduce Advanced Technology to Improve Customer Experience**

- Near Real-time System Conditions, Outage information and Customer Consumption Data
- Provide Opportunities to Save Money through Managed Conservation

- **Increase Operational Efficiency**

- Opportunity to Reduce System Peaks and Delay/Eliminate New Infrastructure for Peak Loads
- Continue Digital Transformation (Manual to Automatic) - Fewer Truck Rolls, Near Real-Time Updates from Field
- More Robust Work Planning (Work Management) and Maintenance Programs (Asset Management)
- Improved Visibility and Reporting Systems

- **Address Evolving Expectations of Customers, Regulatory Requirements and Be Prepared for Future**

- Planned Approach to Electric Vehicles and Utility-Scale Solar for a green environment
- Remote Monitoring and Control of; UC Field Assets and Distributed Energy Resources (DERs) like Solar and EVs, etc.

- **Modernization Project Portfolio is a Planned, Cost-Effective Investment Strategy Leveraging Industry Best Practices**



# Electric Modernization Projects: 2022 – 2024

- Consultants provided a multi-staged modernization plan
- Providing customer value
- Adapting industry best practices
- Focused on Foundational and Priority programs

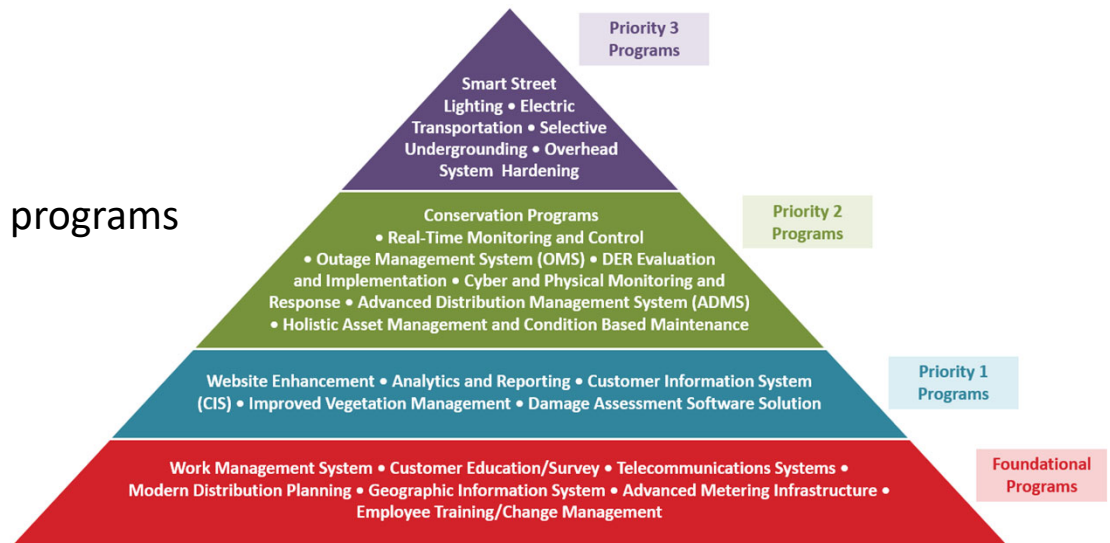


Figure 1: Modernization Priorities (source: Quanta)

# Modernization Programs on Roadmap

- Status of UCNSB's 2022 – 2027 Roadmap from Quanta's Modernization recommendations






















 Advanced Metering Infrastructure	 Advanced Distribution Management System (ADMS)
 Work Management System	 Damage Assessment Software Solution
 Outage Management System	 Modern Distribution Planning
 Website Enhancement	 Overhead System Hardening
 Fiber Optic Backbone	 Selective Undergrounding
 Data Analytics	 Improved Vegetation Management
 Customer Education/Survey	 Cyber and Physical Monitoring and Response
 Geographic Information System (GIS)	 Electric Transportation
 Asset Mgt. (condition-based maintenance)	 Employee Training/Change Management
 Real-Time Monitoring and Control	

Figure 2: Status of Programs

LEGEND	
	Not started
	In progress

# Electric Modernization Projects: 2022 – 2027

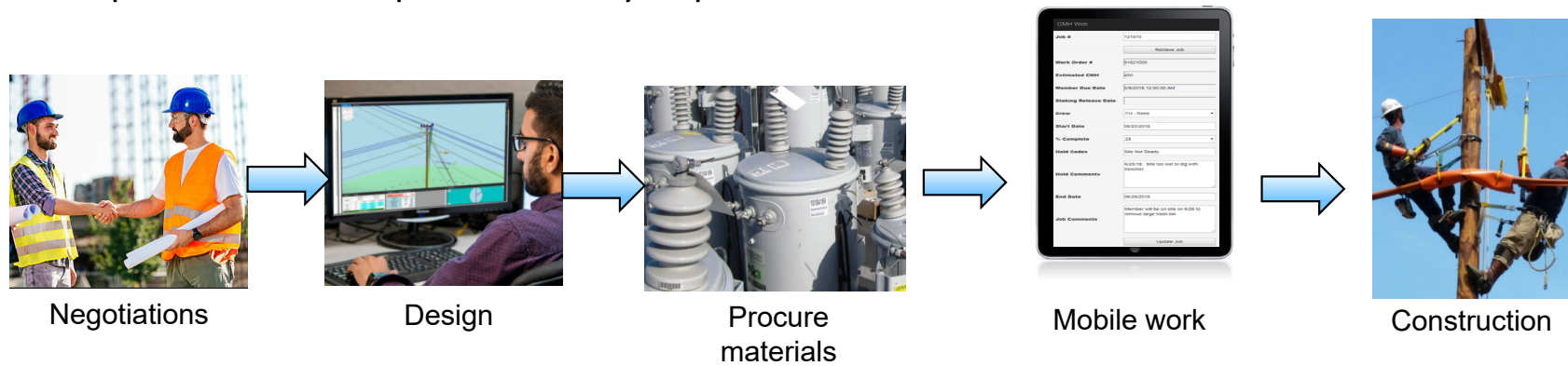
- Timeline is based on foundational hierarchy and organizational capacity

	Project	2022	2023	2024	2025	2026	2027
1	Electric Reliability Improvement Plan (Vegetation Mgmt, Sectionalizing and Electronic Switches - Reclosers and Trip Savers)						
2	Telecommunications Strategy Phase 1 (Burns & Mc., fiber west loop, etc.).						
3	Advanced Metering (AMI) and Smart Grid Infrastructure	Electric & Water					
4	Cyber monitoring Electric SCADA OT system through DOE-APPA 3 Yr Grant						
5	Electric Vehicle Charging Strategy						
6	Assess Utility Scale Solar feasibility for Western Utility Complex and WRF						
7	Work & Asset Mgt. Systems						
8	Damage Assessment Functionality in GIS						
9	Telecommunications Study Phase 2 with field device strategy to support Modernization and Distribution Automation						
10	Outage Management System (OMS)						
11	Solar - FMPA Solar Phase II Project with 10 MW Participation						
12	Advanced Dist. Mgt. System & Distributed Energy Resources						

Figure 3: Electric Modernization Timeline

# Digital Transformation of Work Processes

- Work Management System will replace many paper-dependent processes
- Enables digital work environment for scheduling/tracking
- Send/receive orders through computers/iPads
- Frequent customer updates - ability to present in web format



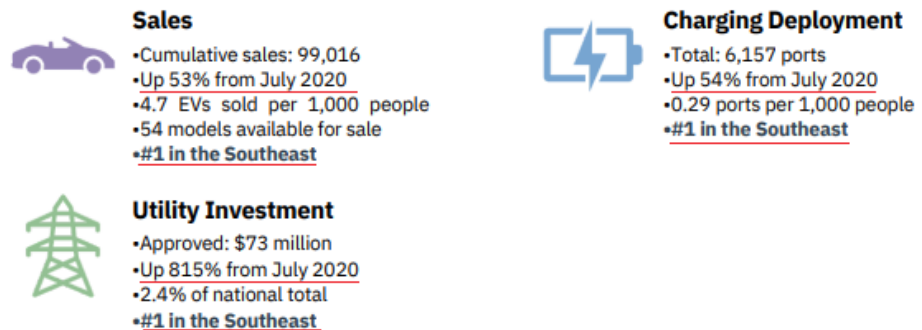
**Figure 4:** Work Process – Digital Migration

# Electric Vehicle Sales Continue to Grow

- The industry is witnessing “Beneficial Electrification”: A conversion from fossil-fueled transportation
- Electric vehicles (EV’s) and charger sales continue to grow
- Since 80% of charging occurs at home, plan to address the public need (20%)
- Future need to monitor, collect and process data, and have ability to manage



Figure 5: Public EV chargers



All measures include medium- and heavy-duty EVs, except for sales which refers exclusively to passenger EVs. EV manufacturing employment and investment represents commitments made to specific facilities in the state.

Figure 6: Florida EV Indicators through July 2021 (source: Atlas EV Hub)





# AMI- Smart Grid Enabled Benefits

- Tools to help conserve energy and water
- Remote account connection – electric
- Customer portal energy manager
- Fewer estimated bills
- Outage notification
- Improved Smart Grid operations
- Minimize trucks rolls - reduce emissions
- “Big Data” enables business analytics

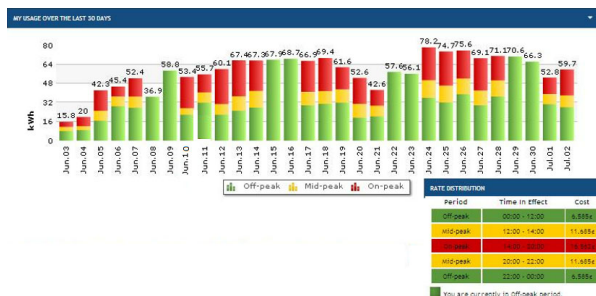


Figure 8: Alternate Rate Schedule

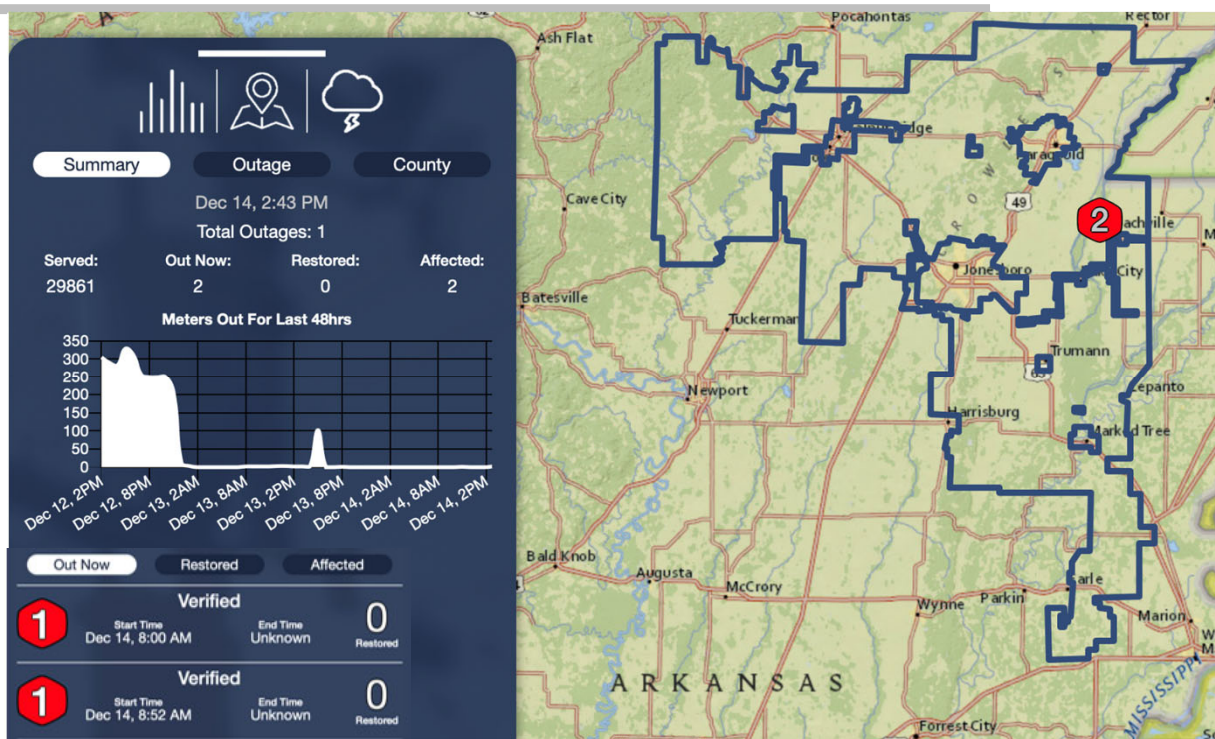


Figure 9: Outage Web Map

# Summary

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- Modernization Strategy Supports UC Vision:

*“To be a community partner with safety as the priority, while providing reliable, essential utility services, dedicated to sustainable resources and community stewardship”*

- The Plan focuses on Prioritizing Strategic Projects that Introduce Advanced Technology to Improve Customer Experience and Improve Operational Effectiveness and Efficiency
- Addresses Evolving Expectations of; Customers, Regulatory Requirements and Be Prepared for Future
- Modernization Project Portfolio is a Planned, Cost-Effective Investment Strategy Leveraging Industry Best Practices
- Questions?