NEW YORK POWER AUTHORITY: VISION 2020

BUILDING AN END-TO-END DIGITAL UTILITY

Executive summary from the President and CEO

In 2017, NYPA updated our Vision 2020 Strategic Plan. Guided by Gov. Andrew M. Cuomo's state energy policies – Reforming the Energy Vision and the Clean Energy Standard – this strategy refresh reinforced NYPA's ambitions to become a next generation electric utility.

First end-to-end digital utility

One major aim of our refreshed strategy is to become the first end-to-end "digital utility". We aspire to be a preeminent digital utility to provide customers with:

- Greater insight into their energy supply and demand
- Lower costs through better energy management
- New technology to improve energy productivity

Combining digital processes, data, technology and people to drive actionable business insight

NYPA will deliver on this vision by leveraging connectivity, big data and analytics to drive actionable business insight that enables us to better serve our customers, employees and other key stakeholders. We have identified 8 digital workflows that will transform the way we operate and meet our customers needs. We have a clearly defined roadmap and are creating a business culture that will enable us to be nimble, learn and react to changes as we travel this digital journey.

Catalyzing digital transformation through our NYEM, iSOC and AGILe platforms

Our digital vision is already being realized through our New York Energy Manager hub, which links 11,000 buildings on a single digital platform, tapping the power of big data, advanced analytics and machine learning.

We are also using digital tools to make our generation and the transmission system smarter, more flexible, and more resilient. Our Integrated Smart Operations Center (iSOC) and Advanced Grid Innovation Lab for Energy (AGILe) hubs have been created to help build a fully digitized New York State grid that will empower New Yorkers' choice to use, generate and store clean power.

This document presents NYPA's digital vision – how we'll achieve it and the value that a digitized NYPA will bring.

For decades, New York has been at the cutting edge of innovation in the electricity industry. In 1882, New York hosted the first central station power plant in Manhattan and in 1896, New York built the first long distance transmission line. In 1931, Gov. Franklin Roosevelt signed legislation creating the New York Power Authority.

NYPA will continue to be at the center of innovation and utility transformation

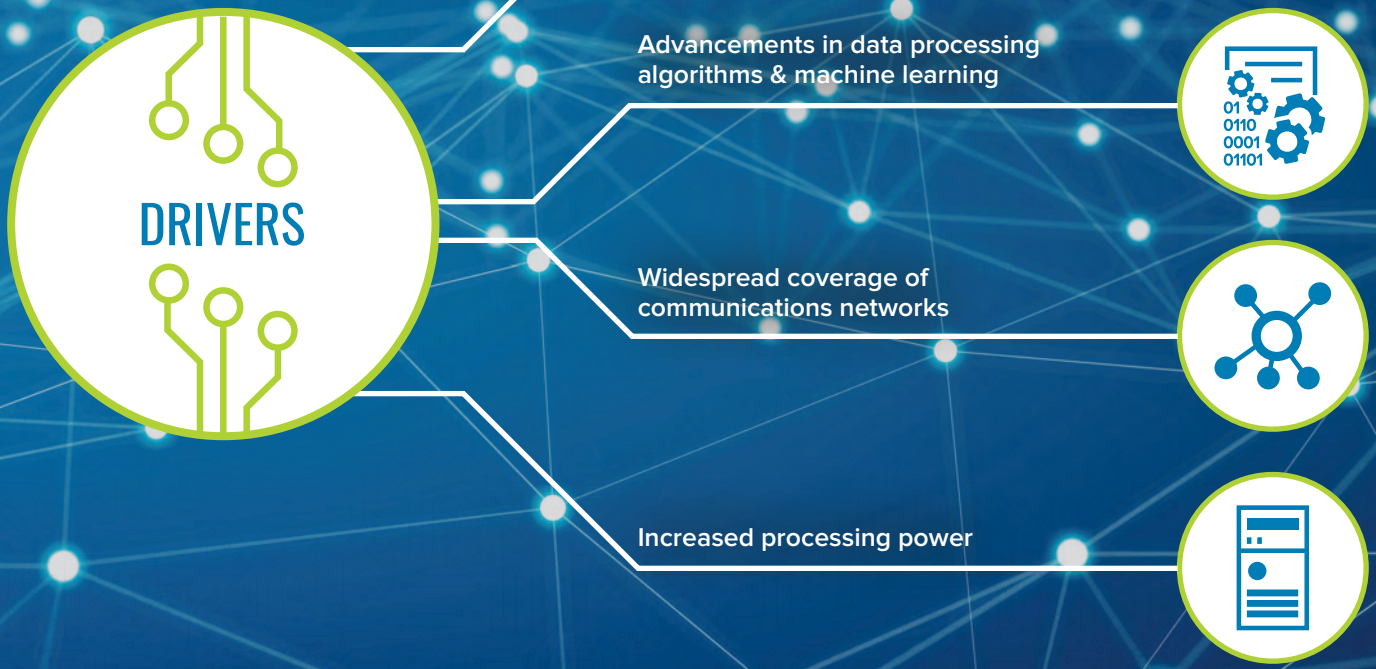
NYPA has been innovating digital technologies for more than 40 years. However, as data acquisition becomes simpler and cheaper, digitization is taking on a new meaning, representing increasing connectivity and data sharing – both within our organization and also across other utilities, technology partners and customers.

It is exciting to contemplate the pivotal role that a digital NYPA will play creating the next generation electricity grid, providing clean, reliable electricity for generations to come.

Gil C. Quiniones

President and Chief Executive Officer
New York Power Authority

Digitization will be a critical factor in the achievement of New York State's clean energy goals and the evolution of a more customer-centric, cleaner and efficient electric grid



"The power grid is in the midst of a digital revolution that is dramatically transforming how we provide electricity statewide."

Richard Kauffman, Chairman of Energy & Finance, Office of the Governor 2017

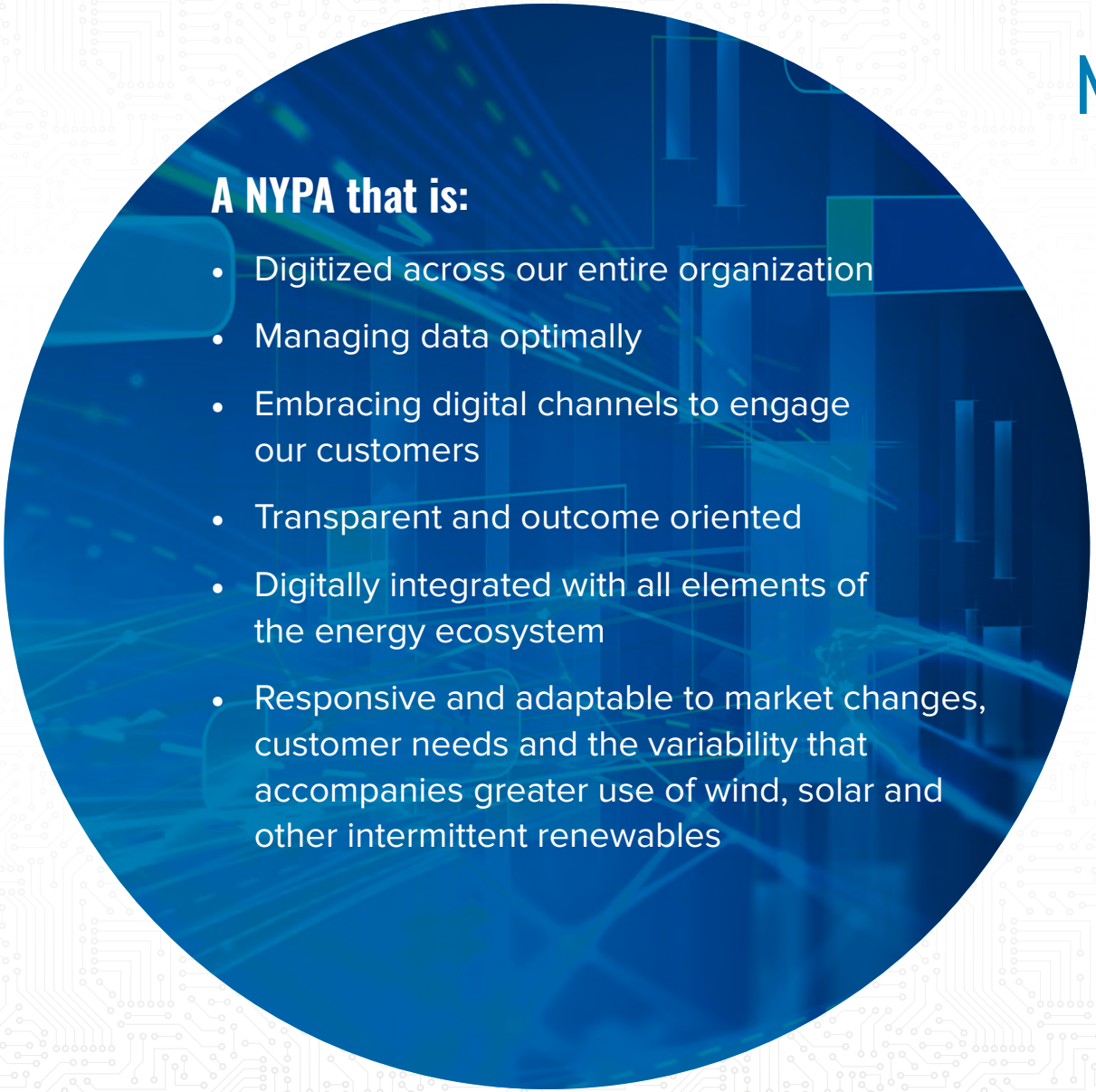
The new digital customer will:

- Generate and consume energy
- Buy and sell commodity and services
- Have increased control of their energy choices

The new digital grid will be:

- Flexible
- Responsive
- Bidirectional
- Intelligent
- Decentralized
- Decarbonized
- Resilient
- Efficient

NYPA will become an end-to-end digital utility leveraging connectivity, big data and analytics to drive actionable business insight that enables us to better serve our customers, employees and other key stakeholders



NYPA's

A NYPA that is:

- Digitized across our entire organization
- Managing data optimally
- Embracing digital channels to engage our customers
- Transparent and outcome oriented
- Digitally integrated with all elements of the energy ecosystem
- Responsive and adaptable to market changes, customer needs and the variability that accompanies greater use of wind, solar and other intermittent renewables

Digital Vision

A NYPA that delivers:

- Innovative business models, products and enhanced customer service that make customers more successful
- Integrated and optimized generation, transmission and distribution assets
- Improved operating efficiency and optimized capital spend
- Enhanced employee safety and satisfaction
- Robust risk assessment and management

NYPA has created 8 digital workflows to support our end-to-end digital transformation

UTILITY

Digital Plant & Field Work

- Resource management
- Work scheduling and status
- Mobile data access
- GIS-supported remote operations
- Wearables
- Electronic work package
- Engineering data management

Digital Asset Management

- Network-wide investment optimization
- Customer and grid scale asset information management
- Customer and grid-scale asset condition monitoring, analytics and dispatch
- Program performance management

Digital Intelligent Grid

- Virtual grid modeling
- Substation automation
- Dynamic line rating
- Fault detection, isolation and restoration
- Intelligent grid devices
- Customer distributed energy resources integration

Active Cyber Security

- Active cyber security monitoring, assessment and management
- Robotics process automation

iSOC

AGILe

CUSTOMER

Digital Enterprise Services

- Supply chain management
- Electronic billing
- Data services for employees
- Decision support

Digital Enterprise Risk Management

- Dynamic energy risk monitoring, assessment and management (operational and financial)

Digital Trading

- Decision support
- Commercial and Operations planning
- Support customer dispatch decisions
- Water and load forecasting
- Capacity bid optimization
- Blockchain-enabled transactions
- Customer-to-customer market making

Digital Energy Products & Customer Engagement

- Behind-the-meter monitoring, analytics, compliance, and dispatch
- Energy risk assessment and management
- Distributed energy resources support
- Customer device control (demand response)
- Beyond-the-electron data monetization and services
- Electric vehicle integration
- Digital channels (e.g. web, mobile, chat, etc.)
- Customer digital journey
- Energy procurement and bill pay
- Energy efficiency/ conservation

NYEM

Adapting our business culture will ensure that our digital investments deliver full value to our customers

Creating a business environment that encourages our employees to embrace digitization and act in new ways while at the same time maintaining the highest levels of electric grid reliability and safety will be challenging.

NYPA is building a culture that fuses the capabilities of our workforce with the advantages that digital technologies and advanced data analytics offer to ensure we continue delivering energy products and services that our customers value.

In concert with the rollout of new digital technologies, hubs and analytics tools, we are:

- Organizing around clear customer outcomes rather then functions and geographies
- Establishing data-informed thinking and decision making as cultural norms
- Working in nimble, cross-functional teams
- Building long-term collaborative partnerships
- Thinking differently about risk management and innovation

Digitizing Our Strategic Supply Management Processes

To better streamline our procurement processes and to work as efficiently as possible, NYPA has moved to a cloud based sourcing, contract management, and supplier management system.

Innovative Digital Analytics

NYPA data scientists are enhancing the decision-making and automating core aspects of our business across enterprise, operations, and customer functions.

In December 2017, NYPA opened an entire floor dedicated to our digital vision. It combines the power of three digital hubs; physical space designed to encourage creativity, collaboration and innovation; and employees from Utility Operations, Customer Energy Solutions, IT, Cyber Security, Data Analytics, Business Strategy, and R&D.

Our three digital hubs will act as the catalyst for digital transformation

NYEM

New York Energy Manager (NYEM) generates real-time energy use data that will, through collaboration with external partners, improve building energy performance, lower energy bills, and integrate distributed energy resources.

iSOC

Our Integrated Smart Operations Center (iSOC) uses advanced sensors, measurement technologies, and communications infrastructure to help predict and avoid problems at our generation and transmission facilities.

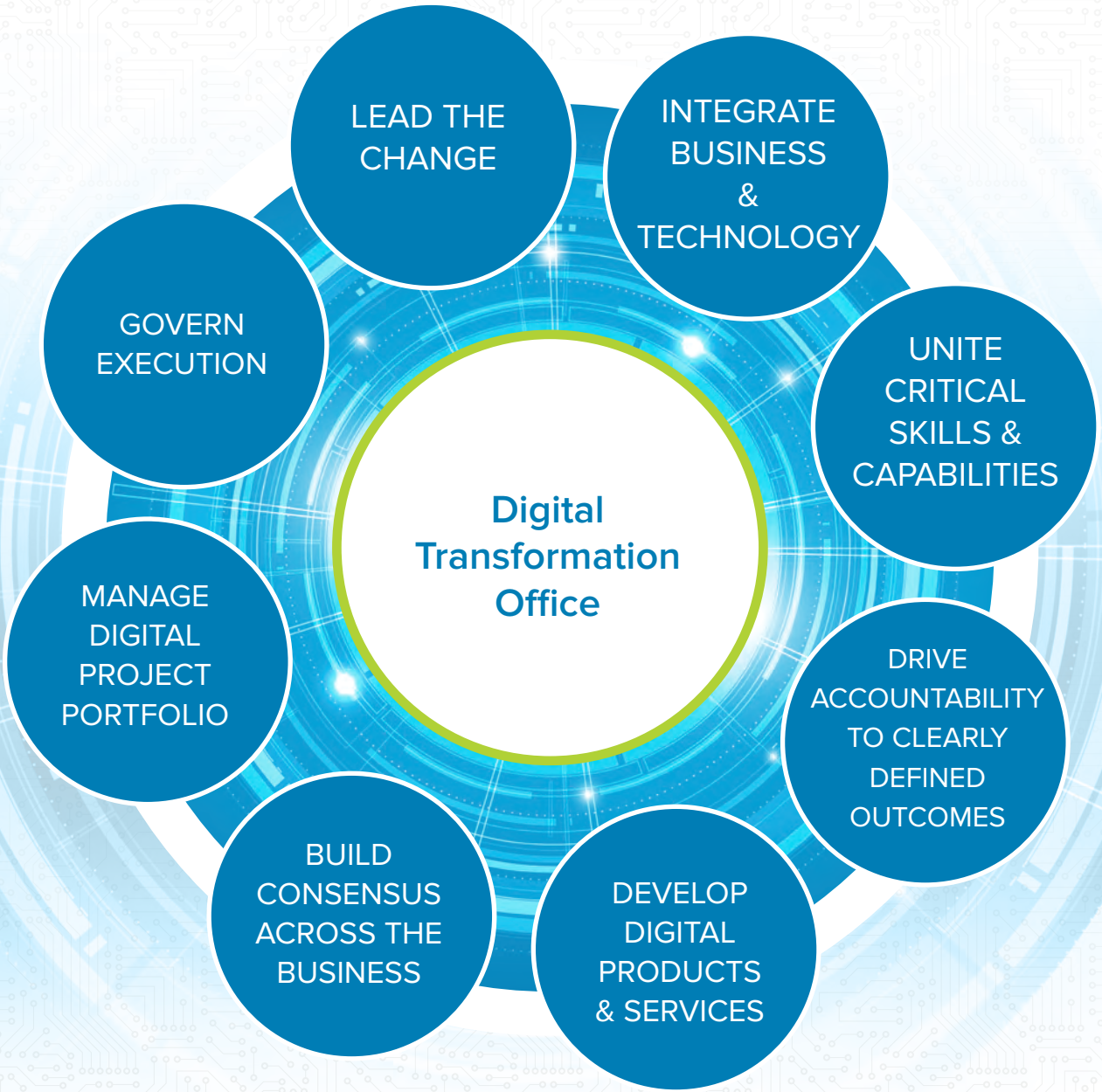
AGILe

Our Advanced Grid Innovation Laboratory for Energy (AGILe), New York's first electric power research facility, will use big data analytics to simulate, develop, and deploy the next-generation electric grid.

NYPA 2020 STRATEGY UPDATE GOALS

COST LEADERSHIP	CUSTOMER SUCCESS	INNOVATION
Identify tangible energy efficiency opportunities	Empower the customer to make data driven operational decisions	Create new business models, products and services that use data to predict, measure and verify outcomes
Use predictive monitoring of assets to optimize maintenance investments	Improve reliability and resiliency of NYPA's assets	Create digital hub for trusted third parties
Lower R&D costs of grid modernization	Support a flexible, responsive grid that can integrate grid scale generation and distributed generation	Become a collaborative hub for the testing and rollout of new grid technologies

The Digital Transformation Office will drive NYPA's transition to a digital utility



NYPA has multiple business functions with differing business objectives. The pace at which we digitize will hinge on how we deploy resources into cross-functional digital programs. Determining where to invest depends on levels of technological maturity and the amount of change that can be absorbed.

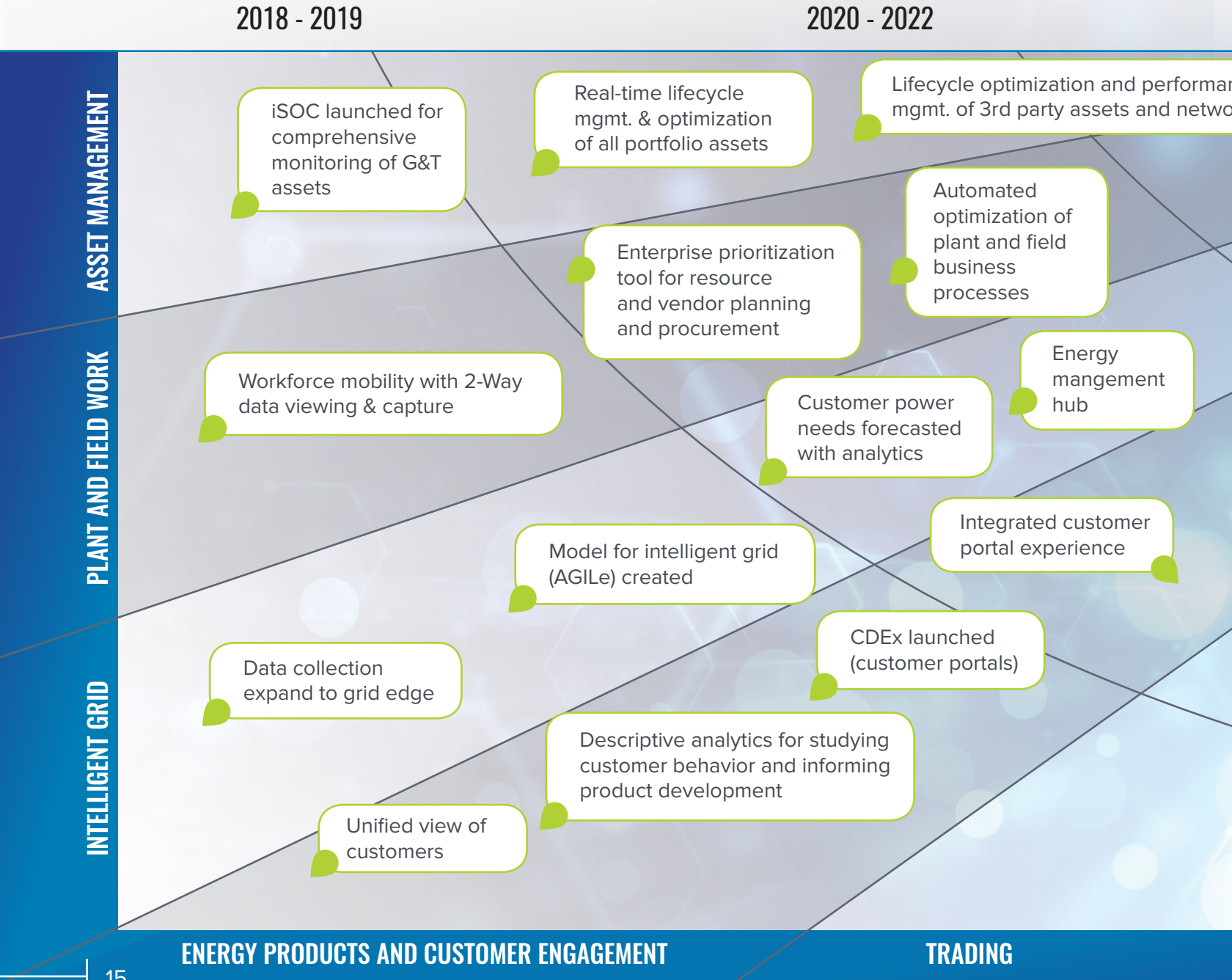
Business leaders, subject matter experts and the IT organization will need to work together to ensure focus and effective prioritization of investments.

IT must clearly understand the digital transformation vision and roadmap to support new digital platforms and business activities. At the same time, business leaders need to support the digital strategy with internal staff, outside advisors, and trusted partners.

Most importantly, there needs to be defined digital business outcomes – objectives, key measures and results that are clearly communicated and understood by everyone in the business. This will ensure that NYPA is truly invested in the outcomes.

The Digital Utility Execution Team has been set up to drive NYPA's digital transformation and ensure that the entire enterprise is working towards the same vision.

NYPA's digital utility business roadmap



NYPA'S DIGITAL VISION

2023 onwards

rmance
etworks

Fully automated plant and field work using AI and robotics

Energy broker

2-way customer distributed energy resource integration

Automated power mgmt.

Blockchain settlement

Automated risk mgmt. using artificial intelligence and predictive analytics

Energy mgmt. services for 3rd party providers

Automated algorithmic trading

NYEM 2.0: next-gen energy services enabled by predictive analytics

Robotics process automation

Predictive analytics for smart trading

Risk-based analytics expanded to 3rd party networks

Risk-based analytics for enterprise portfolio optimization

Automated bidding

Data services for employees

Electronic billing

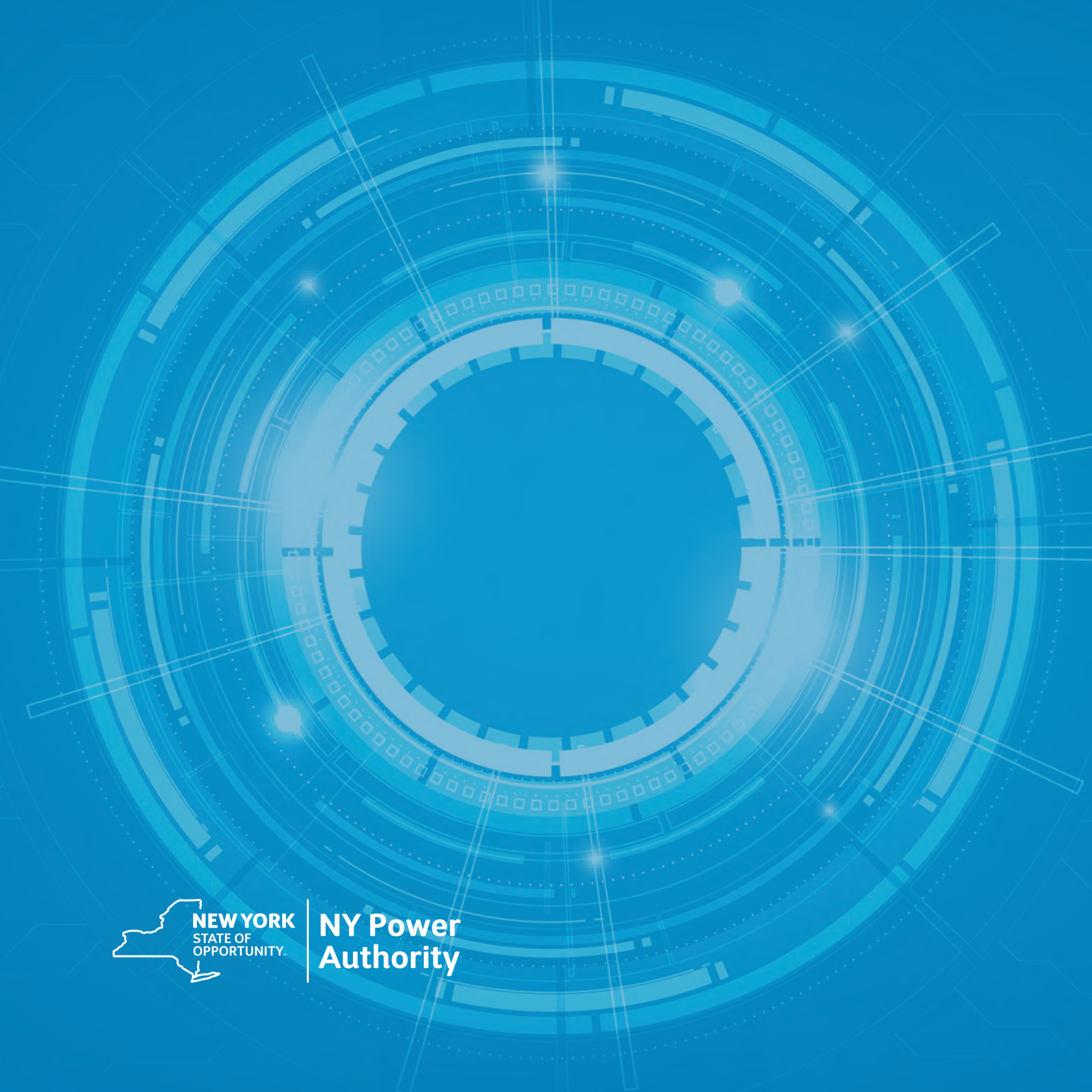
Supply chain mgmt.

Active cyber security monitoring, assessment and mgmt.

ENTERPRISE SERVICES

ACTIVE CYBER SECURITY

ENTERPRISE RISK MGMT.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