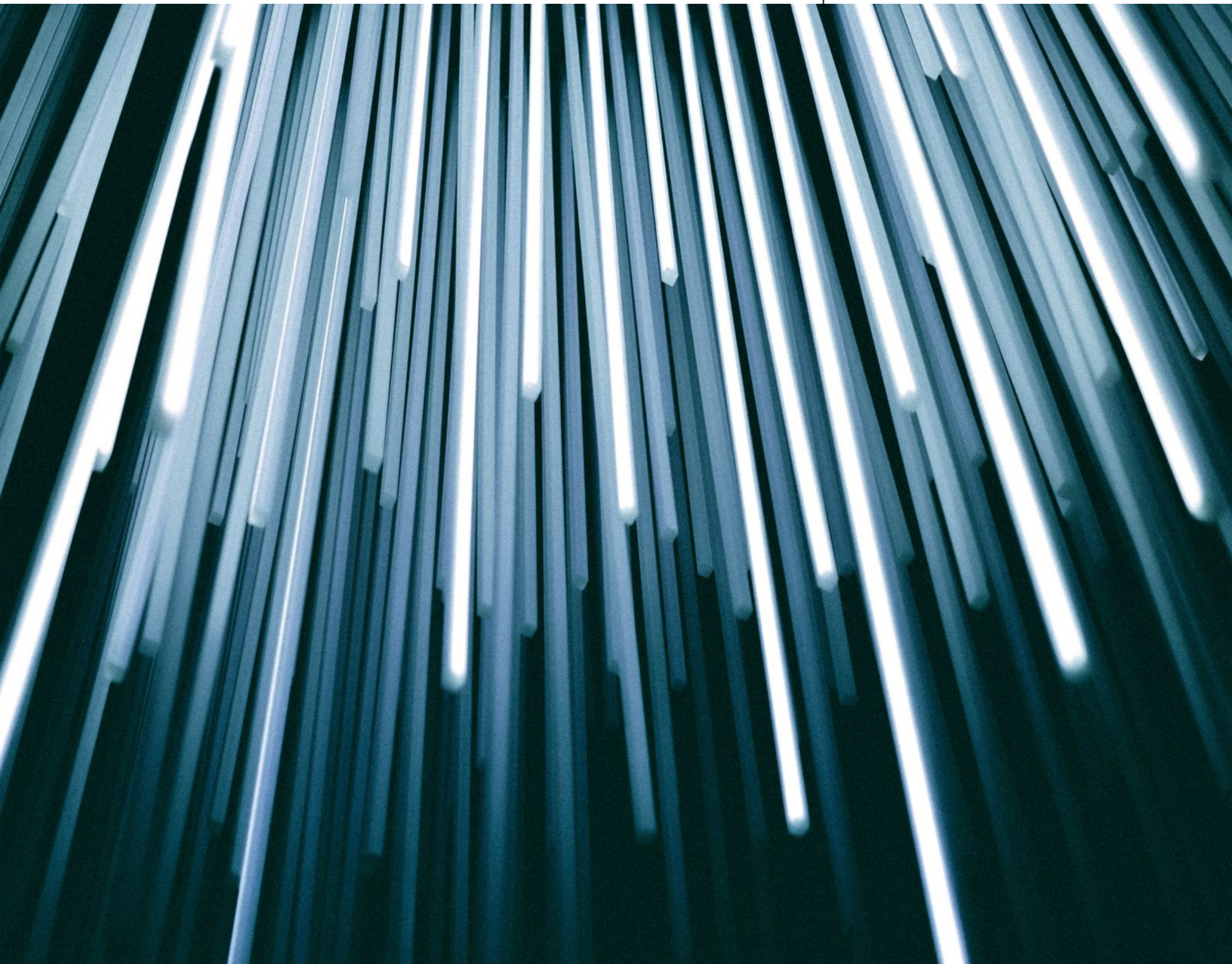


# Workforce Transformation: Powering the Utility of the Future

*A whitepaper presented by*



**QUANTA**  
TECHNOLOGY



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# Introduction

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## A Time of and for Transformation

Virtually every component of the utility industry—the business models, the technology, the customer experience, et al.—is currently experiencing *transformation*. With nearly \$800 billion dollars in grid infrastructure and operations investments expected over the next decade, the notion of dynamic wide-scale change is no longer merely an over-used and under-defined buzzword; it is fast becoming the primary work of utility companies.[1]

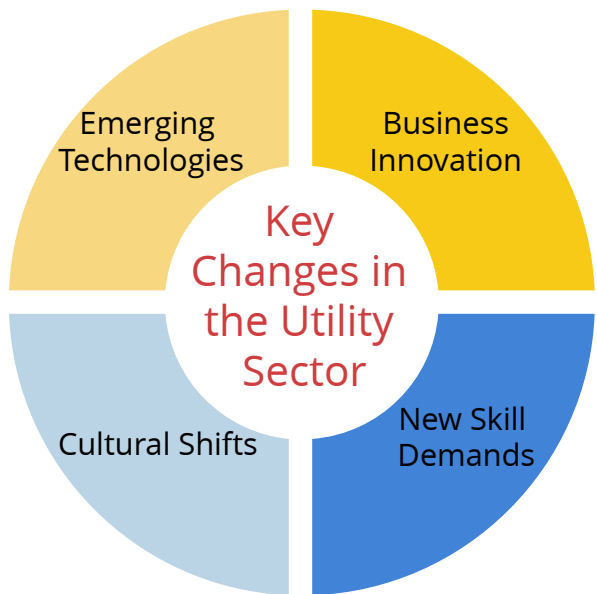
And that has significant implications for your workforce and workplace

The scale and speed of change in the industry often obscures the fact that transformation is as much an opportunity as it is a challenge, a means for utilities to enact ‘version 2.0’ of their Utility of the Future visions. But an innovation initiative or business transformation process alone will not be enough to enable, encourage, and enact lasting improvement; equally significant changes to the development and retention of talent will be necessary to realize ambitious business and operational goals. Put another way: the work of talent development in a time of change is more and deeper than simply replacing retiring senior engineers and/or attracting younger “digital natives” to the utility space; it’s actually a matter of strategy, about alignment of your business goals and your changing workforce.

In this whitepaper, you will learn how a comprehensive workforce transformation strategy can support and sustain organization-wide change efforts; we’ll also show you how to get started on addressing and integrating workforce development efforts into those initiatives. If your organization already has transformation initiatives up and running, you’ll find validation and logical extension opportunities in the guidance provided here. However, if your organization does not have or has not started a workforce transformation effort—or if it’s not as robust as it could be—the ideas presented here will help you take critical initial steps to develop and drive engaging and impactful change.

# What is Transformation?

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Change is the new normal in the utility industry. Rapid evolution and application of technologies and services to improve the accessibility, security, resiliency, and opportunity of power systems have led and will lead to more shifts to utility organization and operation in a decade than in the last century. Continued advancements—be they quantum computing or wide-scale use of agility management techniques or the rise of Generation Z in the workforce—will further increase the need to adapt and innovate, perpetuating the pace of change.

Think of transformation, then, as continuous, simultaneous change in two or more core functions of an organization—and the effect those changes have on the people and processes engaging in those functions. We identify four of those drivers in the graphic at left.

Think of continuous cross-cutting change as both a disruption and an asset. For instance, the proliferation of smart technologies (e.g., sensors, grid automation) and the real-time analysis and response they enable have led many utilities to enact digital transformation strategies, seeking to improve the efficacy both how the utility operates and the services it can offer consumers.

Leading transformation means not just understanding the pace of change but also managing it, or what we call *preparedness*. The pace of grid modernization and digitization means unparalleled access to data and increased operational efficiencies; it also means being prepared for the complexity of utilities' business models and operations, particularly when it comes to delivering and profiting from electricity, to also increase. The work operating and managing a utility will change; the jobs, too, will change.

But the utility workforce is at a crossroads. On one hand, economic projections indicate role and employment stability in the sector through 2025—neither the number nor kind of jobs is expected to shift significantly over the next five years.[2] On the other hand, the existing workforce at many utilities are not prepared to adopt new technologies and/or adapt to the paradigmatic shifts underway in the industry; more than 50% of technical staff in the sector are expected to need significant “upskilling” in new and/or more advanced skills in the coming years.[3] Many utilities are also struggling to find new candidates with the necessary skills to be successful in this fast-changing environment.[4]

# The Transformation The Utility Industry Needs

54%

Percent of workers-expected to need upskilling over the next five years

63%

Percent of companies enhancing workforce development efforts in order to keep pace with digital transformation plans

84%

Percent of utility executives who say engineers will need advanced analytics skills [5]

Disruptive shifts in the operation, maintenance, and expansion of utility service models, coupled with persistent personnel hiring and development challenges, necessitate commensurate efforts in workforce development. After all, changes to the technology used and the operations enacted affect what utility personnel most know and be able to do; this, in turn, changes how they work, which also shifts the ways they can serve customers. What can first appear to be a minor set of training and skill gap challenges often requires, in fact, a systematic change to both the work and workforce. Hence transformation.

*"The key to lasting and impactful workforce transformation is strategy: aligning and leveraging the utility's strategic vision, business goals, AND talent development resources."*

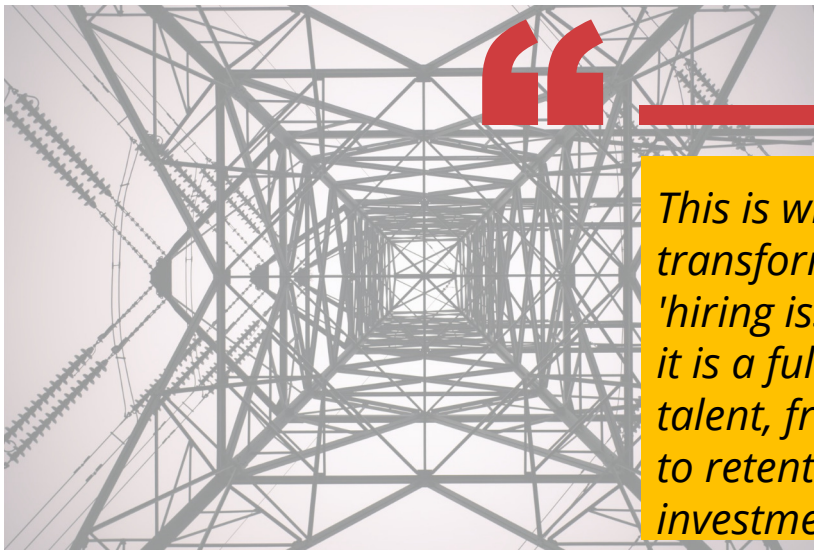
*We define workforce transformation as comprehensive innovation and improvement efforts to address what key personnel in the utility workforce should do, how they go about doing that work, the environment in which the work occurs, and how they learn to do it better. Roles and tasks; culture and collaboration; induction, training, retention—all are spaces to reconsidered and/or repurposed, not only in terms of what employees must know and do but also how they can thrive in a 21st century utility model.*

Workforce transformation, then, is focused primarily on *development*, not merely retention. It is not solved simply by replacing retiring senior engineers and/or attracting younger “digital natives” to the utility space, nor can it be realized simply through a short-term initiative or investment—say, adding additional training content. No, the key to lasting and impactful workforce transformation is strategy: an alignment and leveraging of the utility’s strategic vision, business goals, and talent development resources.

**In short: Utilities need a plan—multi-tier, multi-year—that connects these dots.**

# Making Workforce Transformation Work For You

To lead such a workforce transformation effort, utility companies will need to take a comprehensive and holistic approach that addresses several facets of personnel development and change management concurrently. Professional development, partnerships and pipelines, culture building, changes to systems and structures—all will be needed to truly transform the organization, and all must be differentiated to fit the needs of the work and the workforce.



*This is why it's truly a transformation: it is not merely a 'hiring issue' or a numbers game; it is a full-scale rethinking of talent, from recruitment to roles to retention to return on investment."*

We use the language of a “roadmap” to describe such an effort in order to convey the commit and interconnected journey a utility and its personnel undertake in the transformation process—it’s not just a set of individual improvement activities, in other words. Our process, highlighted in the infographic on the next page, integrates a range of activities, from goal setting to planning to building buy-in; a range of roles and stakeholders—from leadership to early adopters to managers—are engaged throughout. Note, too, that the work does not just dive right into training or other programming solutions: careful attention is paid early on (Steps 1-4) to aligning the work with the strategic direction of the organization—both in terms of its business goals and its people goals—before a sequence is designed and content developed. From start to finish, the process is iterative and collaborative: building internal expertise and buy-in is both the core process and outcome.

## Quanta Transformation Roadmap (Next Page)



**Professional Development**



**Culture and Collaboration**



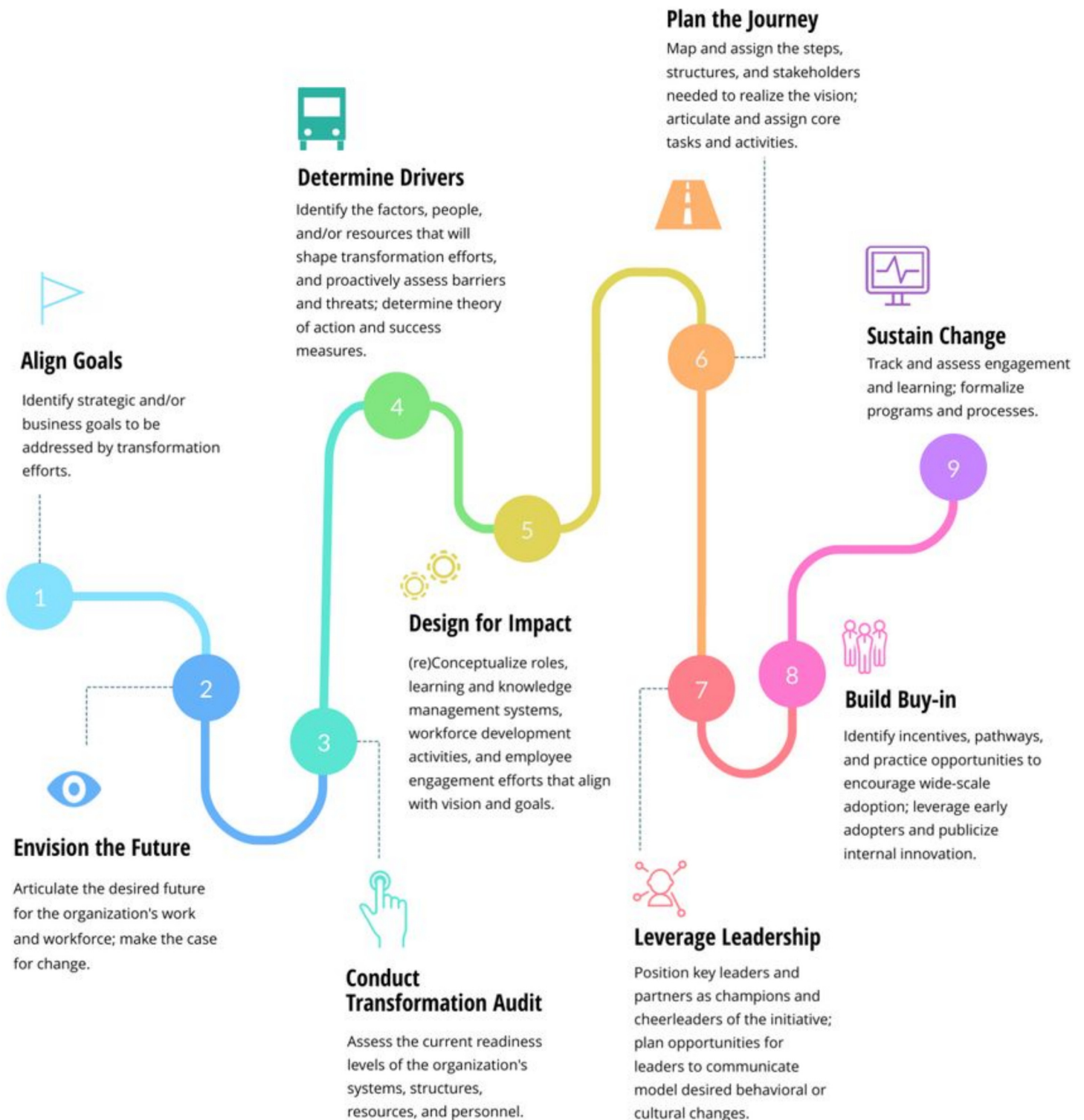
**Employee Engagement**



**Systems and Structures**

# Workforce Transformation

## A Roadmap



# Getting Started

## Skills at the Center

The workforce transformation process begins by calibrating organizational goals and vision with identification of the performances, proficiencies, and personnel necessary for these goals to be realized. For example, Commonwealth Edison, the electricity provider for northern Illinois, created “Engineer of the Future” benchmarks to identify and assess the skills its technical staff to excel; it also identified the knowledge and skills it needs in emerging areas of expertise—such as advanced analytics and cybersecurity—it expects to develop and recruit over the next several years. Skills, in other words, became the link between the Utility of the Future and the workforce of the future.

Skills are a moving target, especially given the pace of technological change in the industry. But consensus is building that *skills hybridity* will be key: technical staff will need to be able to leverage know-how from across disciplines to solve complex problems, and they’ll need to be able to share their solutions to a wider range of stakeholders (i.e., consumers, regulations and policy officials). Advanced data science and analytics competencies, for example, are increasingly becoming critical to this level of performance; so, too, will greater facility with customer interaction and multi-stakeholder interactions.[6] Utilities planning their future and their workforce of the future will want to consider how these skill areas—and others—will need to change alongside their operations and business model.

Skill identification and development are so critical to the transformation process because the industry currently has neither a critical mass of existing engineers with this hybrid skillset nor is likely to make up this skills gap simply through recruitment. As a result, companies will need to make targeted, intentional efforts towards reskilling and upskilling its existing technical staff to address gaps, while at the same time looking externally for personnel—such as data scientists—who can complement and specialize in emerging areas; this, in turn, will require greater attention to and synergy among employee training, development, and engagement. This is why it’s truly a transformation: it is not merely a “hiring issue” or a numbers game; it is a full-scale rethinking of talent, from recruitment to roles to retention to return on investment.



# Next Steps

Transformation is a process. But there are several formative steps you can take now to orient and align your organization for long-term change process.



## Start at the Top--and Bottom



Leadership can begin answering the “Why?” question of workforce transformation: *What is the vision we are trying to realize, and how will transformation to personnel development contribute to realizing it?* At the same time, it can begin to marshal its transformation “cheerleaders”—namely, those across the organization critical to realizing its strategic vision.

## Assess Transformation Readiness



Reflect on your organization's current capacity and efficacy in the areas of professional development, employee engagement, culture and collaboration, and systems and structures: *What assets are already have in place, and which ones are needed, to realize your goals?* Think about progress you have made in these areas and barriers to moving forward. Identify strengths and need areas, particularly in terms of existing and needed expertise.

## Seek Input from Stakeholders



Consult with thought leaders across your organization—not just senior leadership but also those in the trenches who will need to be early adopters of and leaders for the transformation. *What do they think are the key mechanisms for and barriers in the way of transformation? What would help them in getting on board?*

# Conclusion

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Just as grid modernization efforts must attend simultaneously to both the maintenance of the existing grid and the development of the grid to come, so too do workforce transformation initiatives require concurrent attention to both closing existing skills gaps and developing a strategic vision for how to build a future-ready workforce prepared to tackle the challenges of tomorrow's utility industry. "Futureproofing" a utility requires the utility itself to take a leading role on innovating, implementing, integrating a full-scale cultural and learning revitalization; it cannot outsource a transformation.

Still, as more things change, smart leaders know when to stay the same (course). While the scale and rigor of workforce transformation is new, the mindset and strategy to enable it are tried and true: align the right people, the right skills, the right training, and the right support towards the realization of the utility's vision. In undertaking this calibration, programs and personnel will not be the only components undergoing transformation; leadership will, too.

The time to start is now.

## References

[1] Yates, K., & Winters, W. (2018.) For the Smartest Grid, Invest in Utility Workforce. Electric Light and Power.

[2] World Economic Forum (WEF). (2018.) The Future of Jobs Report, 2018. Geneva: World Economic Forum.

[3] WEF, 2018; and Gartner. (2019.) "The Future of Work." Infographic.

[4] U.S. Department of Energy. (2017.) Transforming the Nation's Electricity System: The Second Installment of the QER, Quadrennial Energy Review. Washington, D.C.: U.S. Department of Energy (DOE).

[5] WEF, 2018; Price Waterhouse Coopers (PWC). (2019.) The Narrowing Window for Energy Transformation: 15th PwC Global Power & Utilities Survey.

[6] PWC, 2019; WEF, 2018.

# About Us

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## Quanta Technology

Quanta Technology is an independent technology, consulting, and testing company providing business and technical expertise, along with advanced methodologies and processes, to utilities and others in the power and energy industries. Our mission is to provide unparalleled value to our clients in every engagement across the value chain by using advanced software and hardware, laboratories, and custom tools for a holistic approach to practical service and the most insightful thought leadership in the industry. Our clients include energy-delivery utility companies, large industrial companies, energy suppliers, Regional Transmission Operators, Independent System Operators (RTOs/ISOs), and energy industry research and support organizations.

## About the Author

Brad Cawn is the Senior Advisor of Knowledge Transfer for Quanta and the project lead on the company's workforce transformation advisory services. An experienced strategy and change management consultant, he is working with utilities across the country on a range of training and transformation needs, including the revamping of their professional development programming, developing innovation centers and clusters, and supporting efforts to improve employee engagement. To discuss your workforce transformation needs, contact Brad at [bcawn@quanta-technology.com](mailto:bcawn@quanta-technology.com) or (847) 946-4595.