THE FUTURE OF ASSET MANAGEMENT
ON THE ROAD TO AN ASSET MANAGEMENT REVOLUTION
This is the first in a series of Arcadis reports analyzing the role and evolution of asset management in organizations. Asset management is a vast source of value creation that is largely untapped. As organizations increasingly need to fund and maintain more assets, the role of asset management is changing. If organizations can overcome the challenges faced and open up the huge opportunities available, asset management can unlock value that simply isn’t being realized at present…. but how?
Understanding the value at stake

Assets are essential to our lives. The transportation we use, buildings we work in, facilities treating the water we drink and grids delivering power to us, are all assets that must be managed and maintained. Yet our world is putting increasing pressure on these assets, whether through rapid urbanization, climate change or water scarcity. These assets will continue to be central to our existence and therefore will always need managing, often with less resources. Well managed assets can realize huge value, but using outdated approaches can result in underperformance and losses.

Estimates indicate that over $55 trillion of infrastructure investment is needed globally over the next 15 years to simply maintain projected growth\(^1\). Effective asset management will be crucial to ensuring long-term performance and unlocking value. Both public and private organizations will have to implement effective plans to optimize their assets to remain competitive, and the size of the prize for those who succeed is vast.

Understandably, the role of asset management is changing. We are in the middle of an asset management revolution, which is fundamentally expanding its scope. No longer solely a technical discipline, primarily driven by the need to better forecast capital investment, there is now a business-driven mindset looking at the full asset life-cycle, inherently transforming the way organizations operate.

This transformation is further fueled by the necessity to meet future demands with limited resources. Regardless of how optimal existing practices might be, stand-alone budgeting exercises or isolated maintenance procedures are not enough. Organizations need to break their functional silos and optimize asset performance throughout the entire asset life cycle. So how can organizations managing these assets realize the true value they present and seize the asset management revolution?

\(^1\) Global Built Asset Wealth Index 2015

Biggest trends impacting our assets

- Aging infrastructure requiring upgrading and replacement and rapid urbanization driving new investment
- Higher customer expectations demanding better service levels while maintaining customer rates and taxes low
- Increasing safety and regulatory requirements and public scrutiny relative to human health, the environment, and public investment
- Scarce capital reserves, high operating and capital costs, and flat operating revenues
- More frequent extreme weather events demand a more resilient infrastructure
Although awareness of the asset management revolution varies greatly by industry and region, it is safe to say that the journey so far has been far from optimal. As an example, a global survey conducted by Arcadis in 2015 found that most asset owners knew they could benefit from an asset management program, but they did not know how to start implementing one.

Given the benefits that can be gained from successful management of assets and the multiple, valuable frameworks, standards and practices available, why do asset management programs fail? Our research highlights that the fundamental issues faced by organizations trying to implement programs are not technical, but organizational. Asset Management functions that are exclusively technical in focus are outdated. Many organizations are not maximizing the fullest benefits an asset management program can bring by implementing an effective organizational transformation.

These challenges are not so different from those organizations faced a few decades ago, when implementing health and safety programs and corporate social responsibility initiatives became the focus. Once businesses realized that the key to success of such programs was to embed them in overall organizational change, their real benefits could be realized. Lessons can be learnt from this because the same is true for asset management - genuine value can only be gained by placing it at the heart of an organizational change.

In fact, 80% of asset owners indicated that they did not have a complete understanding of what assets they possessed, their condition, or the required maintenance activities and budget.

2. Internal Asset Management Survey: Relative Maturity of Assets
How can this be achieved? To overcome the challenges faced in implementing an asset management program, organizations must consider four critical parts of the journey they face:

1. **Preparing for the journey** – building the case for change
2. **Setting off on the journey** – recognizing the organizational impacts
3. **Taking others on the journey** – aligning the whole business
4. **Choosing interchanges on the journey** – the route to success
Many organizations fail to articulate what asset management is and the value it can bring, and therefore cannot build the right case for a program. This is because asset management means different things to different businesses. It is essential to be coherent about what asset management means to your organization and what impact an asset management program could bring.

There are numerous definitions of asset management available, and the broad concepts and perspectives can make the exercise less straightforward than anticipated. Essentially it is critical to remember that asset management is not about creating complex frameworks. It is about streamlining processes, improving business performance, and creating a line of sight between the company strategy and activities carried out across the organization.

Countless organizations embarking on asset management programs display a lack of understanding of the central concepts they are trying to implement. This was highlighted in a recent survey of over 500 asset management professionals across a range of industries who identified building a coordinated asset management strategy at corporate level as one of the top three asset management priorities. However, over 45% of the respondents also indicated that it was too early to understand the benefits of building such strategy.

It is crucial that organizations understand, define and communicate the objectives of their asset management program, taking into consideration that different functional groups, such as maintenance or engineering, may perceive things differently.

Organizations can embrace an existing definition of asset management, or craft their own to ensure the program is understood and embraced by the entire organization. For example, the international standard ISO 55000 defines asset management as ‘coordinated activity of an organization to realize value from assets.’ This definition can be qualified to explain how that value is going to be achieved, for instance by ensuring the optimal balance between asset operational performance, risk management, and financial needs. Regardless of the words chosen, the focus should be to ensure that each stakeholder understands and supports the proposed program.

Only when a precise definition of what asset management means to your organization can a solid business case be developed. To have any hope of the program realizing its true value it is essential to have a strong business case which quantifies expected benefits such as savings, risk reductions, and efficiency gains.

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Figure 3.

Understanding asset management

- Asset Performance
- CapEx Optimization
- OpEx Optimization
- Risk Management
- Asset Management Program

3. 2015 IAM Exchange Conference
2. Setting off on the journey - RECOGNIZING THE ORGANIZATIONAL IMPACTS

When embarking on asset management programs, organizations must recognize and embrace the transformational journey required for it to be successful. This transformation goes beyond developing an asset inventory, condition assessment, or risk analysis, it alters the way the organization operates.

Business process optimization, mapping and adoption, are critical elements required to achieve a business-centric transformation. These processes should be comprehensive, well documented, and address the full life-cycle of an asset, including planning, asset creation, asset maintenance, asset disposal and inventory management. The challenge to this is that most organizations fail to connect what we call the ‘top down’ (engineering and finance departments planning the investments and operational and maintenance groups working with the assets) and ‘bottom up’ (vice versa) perspectives of asset management.

Realizing that they cannot afford to replace all of their assets at once and must distribute investment over time, many organizations only implement a top-down program focused on long-term asset performance and capital planning. While they take into account the organization’s goals, reduce risks and optimize budget at the time they are implemented, they do not include the wider business.

Over time, the organization will realize that the asset management concepts being applied will require operational support and a significant change management effort. This generally results in a one-time capital planning exercise, usually including an asset inventory and condition assessment, which become obsolete as soon as assets are installed or decommissioned.

Instead, by combining a bottom-up perspective with the top-down approach before commencing the journey everything will be different. Driven by operations and maintenance groups, a bottom-up approach focuses on what needs to happen at an asset level to enable the asset management program. By impacting the wider business sooner, operational change is integrated into the program. This encourages data capture which supports engineering-driven activities such as inventory updates, asset condition reviews, and labor and equipment costs tracking.

Although such business transformation concepts have been around for many years, there is a lack of maturity of asset management practices in some industries. As such we are just starting to apply business transformation concepts to asset management - constituting an asset management revolution.

This revolution is shifting the focus of asset management guidelines, from purely technical, to more holistic, incorporating all the elements of organizational change.

For example the US water industry has historically embraced the primarily technical Environmental Protection Agency/Water Environmental Research Foundation methodology. Yet they are now starting to also implement ISO 55000, which focuses on the overall asset management system, addressing processes, systems, and people.

Figure 4.
Understanding asset management concepts, goals, and processes will not ensure a successful asset management program. The critical ingredient is achieving true ownership across all levels of the organization which requires a cultural shift, from functional to business-centric. Just like successful businesses have been able to implement a safety culture, organizations must embed the importance of asset management in all aspects of their operations.

Lots has been written about the organizational impact and requirements of asset management programs, yet this remains a widely unaddressed challenge. Organizational silos remain, and functional managers still address elements of asset management programs as stand-alone practices within their own departments.

How can we change this situation? While some organizations have taken steps such as creating an asset manager role, it is not the creation of a new job that will drive an asset management mindset across the organization but the embedment of culture, competencies, and accountabilities.

Although asset management structures must incorporate the organization’s existing goals, structure, and culture, whether a decentralized or centralized model is chosen, an asset manager champion must be in place. Asset manager champions truly understand the ultimate implications and value of an asset management program. They are able to communicate this value and influence others, and can obtain the required organizational support.

Ultimately, these individuals are catalysts for adoption of an asset management mindset within the key departments impacted by the asset management program, advocating the importance of aligning employee performance objectives with the key performance indicators of the asset management program.
The last critical element of a successful asset management program is the importance of focusing efforts in the right place at the right time. Asset management programs are multi-year efforts and it is important to have a clear vision down the road with manageable components in place that can be implemented and tracked on an annual basis. Prioritizing and optimizing these efforts requires a rigorous decision making process that leads to increased effectiveness and guides decisions when interchanges are experienced.

Quite often, organizations spend millions conducting asset inventories, condition assessments, and risk analysis before implementing sound inventory management practices. By not first calibrating activity into the most appropriate order, these inventories quickly become obsolete, the data cannot be trusted and the program loses credibility. This is just one example that highlights the importance of setting the right priorities and properly sequencing the elements of the asset management program. Another common mistake is not prioritizing the IT solutions required to support asset management programs. While organizations are realizing that data is a critical benefits of their asset management programs, there is still a lack of maturity surrounding the implementation of asset management solutions. Improving data management and data quality was ranked the number one priority for asset owners across industries.

Yet, staggeringly only 21.3% of the budget spent on data management and data quality improvements is allocated to change management and adoption support, which are widely accepted as the leading cause for IT systems implementation failures.

When looking for process improvement opportunities, such as ensuring proper sequencing of activities and robust IT systems, thinking outside the ‘business as usual’ approach can be the key to success. For example, as safety is an element that should be used to define the criticality of your assets, there might be an opportunity to converge safety and maintenance programs, which can result in reduced risks, and an improved performance and safety culture.

Similarly, organizations should leverage standards to transfer the burden of creating asset inventories for new facilities to the design phase of the project. There are also opportunities to optimize maintenance practices leveraging methodologies such as Reliability Centered Maintenance (RCM) for assets requiring more attention. Although the applicability of RCM might vary across industries, there is an opportunity to cross-pollinate best practices from more mature industries. This might be reducing maintenance costs and risks for similar asset classes, which would normally be treated differently across various sectors for no justifiable reason.

Expectations also need to be realistic. While the requirements set out in ISO 55000 provide the framework for an asset management system, meeting these requirements does not guarantee that business performance will improve. In fact, if the organization does not understand and embrace the changes, the success of an asset management program will never be fully realized regardless of the accreditation status.

4. Choosing interchanges on the journey - THE ROUTE TO SUCCESS
In order to experience a successful journey and to seize the opportunities presented by the asset management revolution, we recommend that organizations:

1. Truly understand and communicate the goals of the asset management program and ensure strong leadership and stakeholder support.

2. Recognize the organizational implications of an asset management program to ensure long-term success.

3. Implement a framework that integrates all asset-related functions, activities, and financials to achieve true ownership across all levels of the organization.

4. Strike the right balance between financial performance, risk management, and operational performance.

5. Leverage IT to enable organizational change, optimize business processes, and support informed decision making.

6. Rely on best industry practices (e.g., risk-based prioritization, performance-driven asset management, RCM) and standards (e.g., ISO 55000).

Further reports in our Future of Asset Management series will address elements such as delivery models, organizational considerations, and the role of information technology.
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ABOUT ARCADIS

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