

Log alvast in om mee te doen!



ISO55000:2024 EFFICIENT AND SUSTAINABLE IN ACTION

An Interactive workshop at the TiAM 2025
1/30/2025



Inhoud van de workshop

01

Introductie

02

Interactieve Quiz

03

Toelichting over de belangrijkste wijzigingen

04

Concrete praktijkvoorbeelden

Wie zijn wij?



Asset Management Technology

Niek Warringa

Asset Management Consultant
niek.warringa@stork.com



Asset Management Technology

Nina Fozein Kwanke

Sr. Asset Management Consultant
nina.fozeinkwanke@Stork.com



Asset Management Technology

Tewes Remge Zeef

Sr. Asset Management Consultant
tewes.zeef@bilfinger.com



Asset Management Technology

Joris Grimbergen

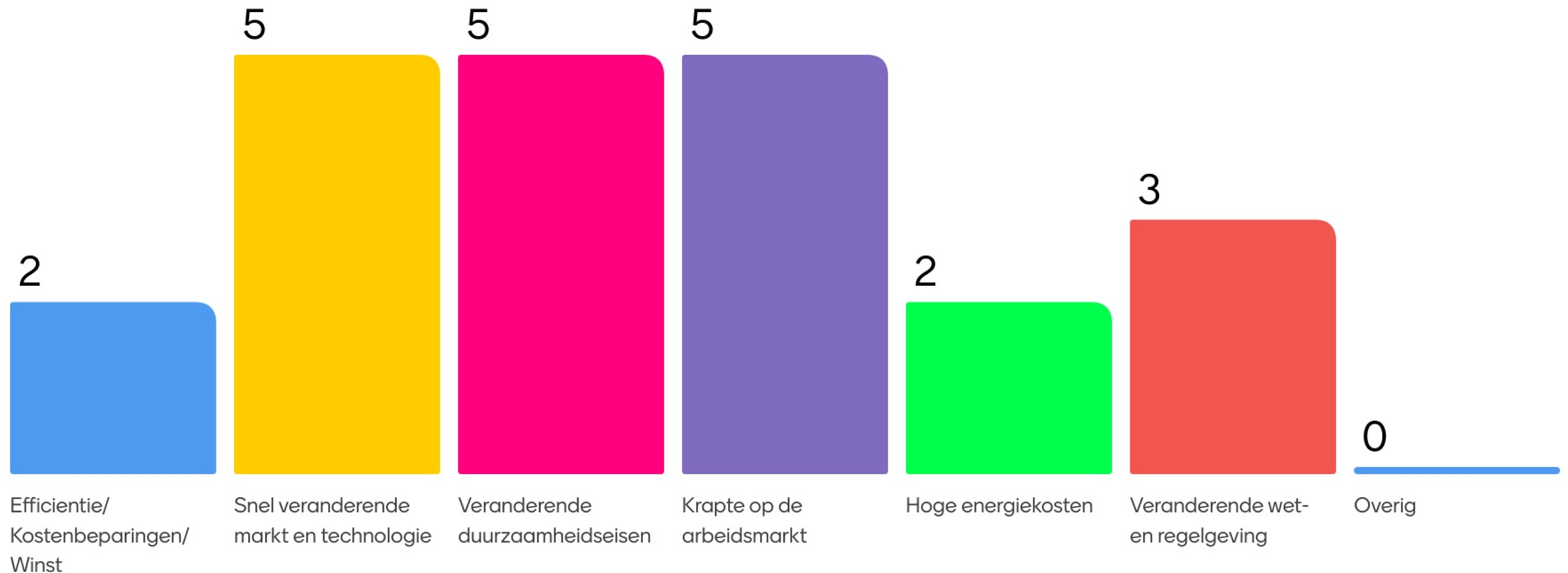
Principal Asset Management Consultant
Joris.Grimbergen@stork.com



Interactieve Quiz

Over de belangrijkste wijzigingen tussen de ISO55000:2014 en 2024

1. Met welke uitdagingen heeft uw bedrijf te maken?



1. Met welke uitdagingen heeft uw bedrijf te maken?

- 1 Conduct an extensive stakeholder engagement exercise to understand the requirements (needs & expectations) of all stakeholders.
- 2 Review organizational goals, objectives and any specific asset management objectives.
- 3 Develop groupings of impact types that the organization can use to recognize and demonstrate the degree of satisfaction of the stakeholder expectations and delivery of objectives (for example, financial performance, health and safety impact, environmental impact, reputation, customer satisfaction, social value).
- 4 For each of these impacts, develop scales of significance, with example ranges of impact and scores or indicators of their importance (value driver). For example, high, medium and low impacts need to be expressed in recognizable symptoms of their degree of impact, and give a numerical significance (ideally monetized, or at least able to be combined with other impacts).
- 5 These scales of significance should then be used as consistent references when determining criticalities, risks, urgencies and in decision-making (where trade-offs and combined impacts will be encountered).

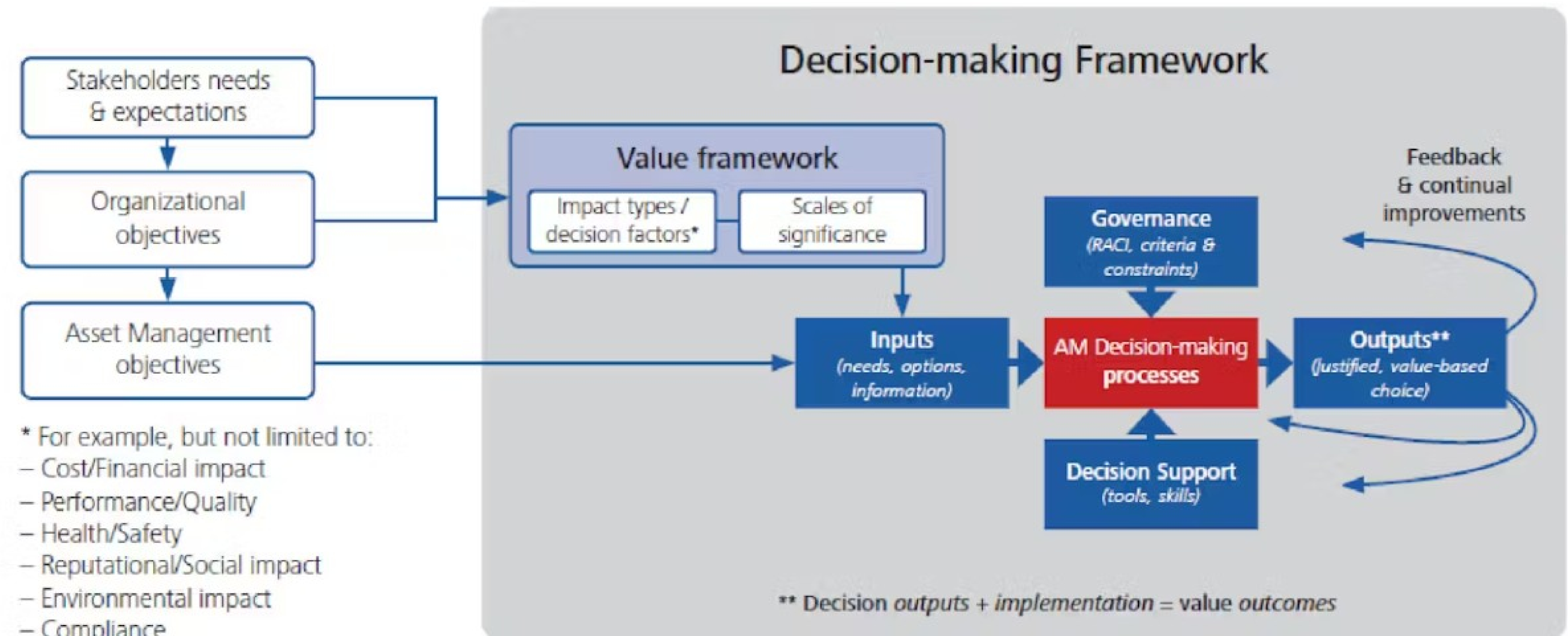
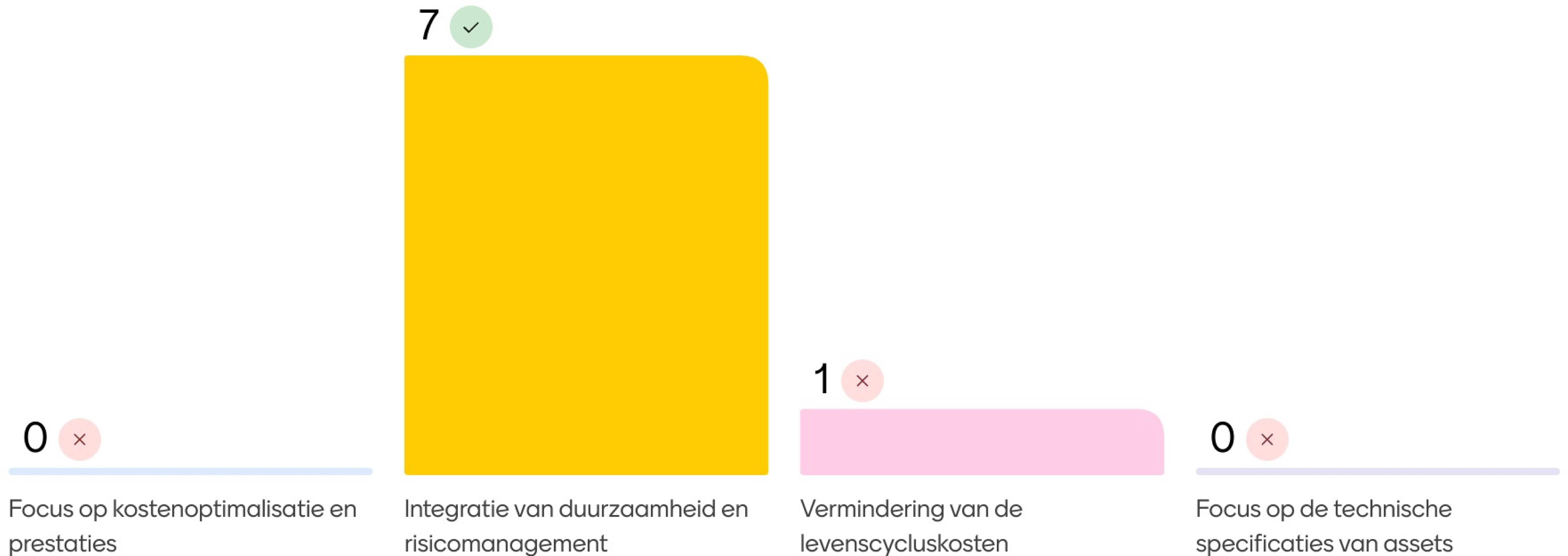


Figure 13: Example of primary elements of a decision-making framework for asset management

2. Wat is een belangrijke wijziging van de nieuwe ISO 55000-norm t.o.v. de oude norm?



2. Wat is een belangrijke wijziging van de nieuwe ISO 55000-norm t.o.v. de oude norm?

✓ Integratie van duurzaamheid en risicomanagement

Oude ISO norm focus op:

- kostenoptimalisatie en prestaties;
- vermindering van de levenscycluskosten;
- de technische specificaties van de assets.

ISO 55001 (2024) – Key changes



Asset management system — Requirements

4.5 Asset management decision-making and value (NEW)

Purposed to help connect decision-making for all sizes of organisations.

6.1.2 Actions to address risk (NEW)

Provides clarity on the risks related specifically to asset management.

6.1.3 Actions to address opportunities (NEW)

Separates risk and opportunity.

6.2.1 Strategic Asset Management Plan (NEW)

Provides a polished version of the SAMP to be used as a key artefact in supporting organisational planning.

7.6 Data and information (NEW)

Provides emphasis on the difference between data and information for asset management.

7.7 Knowledge (NEW)

Emphasises the importance of context with data and information to a successful organisation.

10.3 Predictive action (NEW)

Defines predictive action as anything that seeks to adapt changes, as an alternate to preventative action.



© Copyright The Institute of Asset Management 2024. All rights reserved.

2. Wat is een belangrijke wijziging van de nieuwe ISO 55000-norm t.o.v. de oude norm? (Cont'd)

✓ Integratie van duurzaamheid en risicomanagement

- Oude ISO norm focus op:
- kostenoptimalisatie en prestaties;
 - vermindering van de levenscycluskosten;
 - de technische specificaties van de assets.

Asset Management Subjects	Do Subjects Map?	ISO 55001:2024
Subjects Listed in order of the 10-box Model		
Purpose & Context		
Organizational Purpose and Context		Section 4
Stakeholder Management		Section 4
Leadership & Governance		
Asset Management Leadership		Section 5
Asset Management Policy		Section 5
Asset Management System		Section 4
Asset Management Assurance and Audit	N	
Technical Standards and Legislation	N	
Organization & People		
Organizational Arrangements		Section 5
Organizational Culture	N	
Competence Management		Section 7
Organizational Change Management		Section 6
Strategy & Planning		
Demand Analysis	N	
Sustainable Development	N	
Asset Management Strategy and Objectives		Section 6
Asset Management Planning		Section 6
Shutdown & Outage Strategy & Planning	N	
Contingency Planning & Resilience Analysis	N	
Resource Strategy and Management		Section 7
Supply Chain Management	N	
Life Cycle Value Realization	N	
Asset Costing and Valuation	N	
Asset Management Decision-making		
Decision-making		Section 4

ISO 55001:2024

The primary outcomes of asset management are the realization of value and the achievement of organizational objectives. There are also some characteristics that result from the implementation of a systematic approach to asset management, including the following:

- assurance: asset management provides better organizational oversight and accountability;
- adaptability: asset management enables organizations to adapt more rapidly and effectively to changes in internal and external context;
- sustainability: asset management promotes long-term thinking, considering future impacts, risks, uncertainties and opportunities to realize value.



2. Wat is een belangrijke wijziging van de nieuwe ISO 55000-norm t.o.v. de oude norm? (Cont'd)

✓ Integratie van duurzaamheid en risicomanagement

Oude ISO norm focus op:

- kostenoptimalisatie en prestaties;
- vermindering van de levenscycluskosten;
- de technische specificaties van de assets.

In de nieuwe ISO 55000-norm is duurzaamheid:

- geen apart hoofdstuk;
- geïntegreerd in de bredere context van AMT (risico management, prestatie verbetering en waardecreatie)
- Specifiek beschreven ivm de levenscyclusbenadering van assets

In de nieuwe ISO 55000-norm:

- lange-termijn impact op het milieu, de maatschappij en de economie

The IAM's 10-box capabilities model was developed in recognition that a management system standard for asset management would identify what is required to be in place for the management system, but would not address how asset management could be implemented. The Capabilities are intended to explain the asset management activities in greater detail.

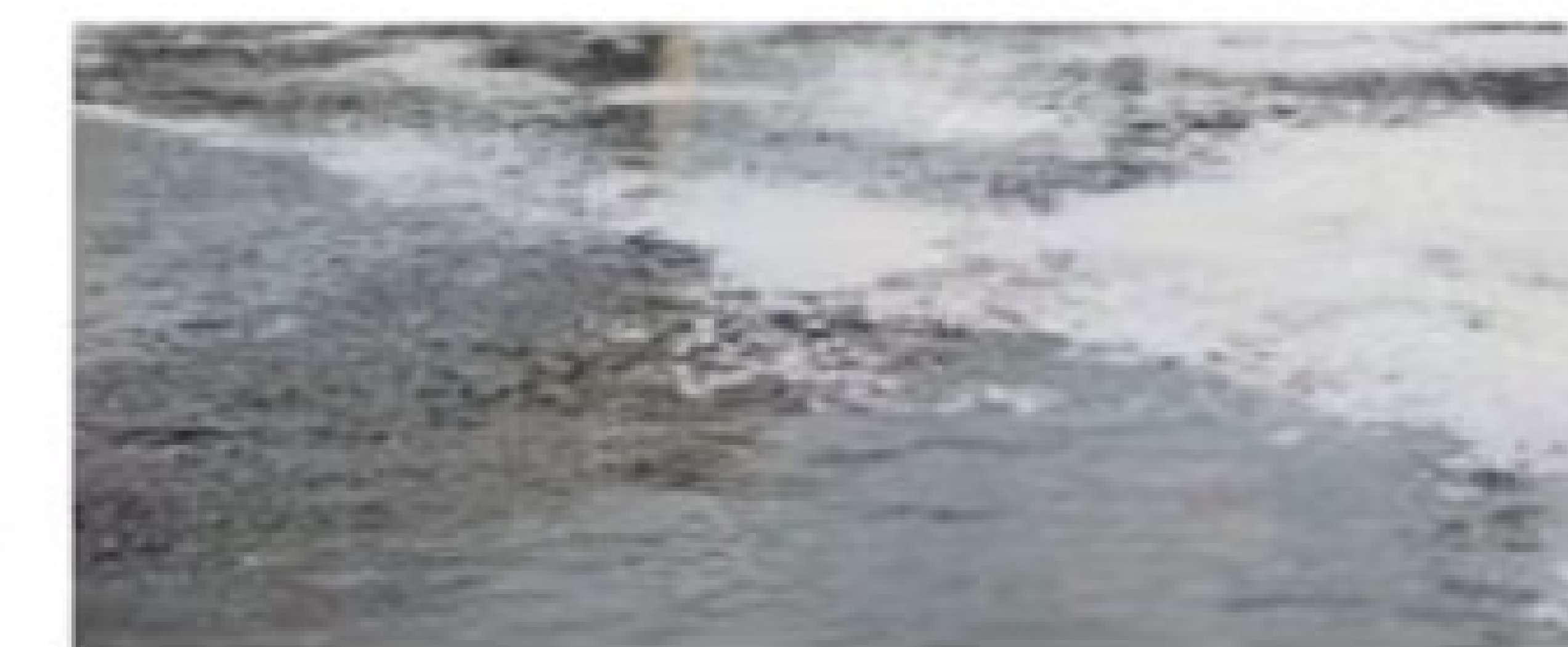


Figure 5: Mapping the GFMAM Asset Management Landscape Subjects Against the Ten Capabilities (see Appendix A which also maps the subjects against the ISO55001 clauses)⁹⁹

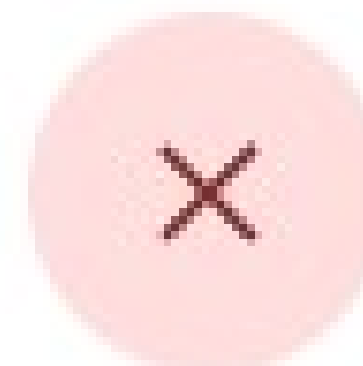
© Copyright The Institute of Asset Management 2024. All rights reserved.

Effectief assetmanagementsysteem = behalen van financiële + operationele doelstellingen + waarborgen van de duurzaamheid van assets door risico's te beheren die voortkomen uit milieukwesties, sociale verantwoordelijkheid en de bredere maatschappelijke impact.

3. Wat wordt onder de nieuwe ISO 55000-norm verwacht met betrekking tot risicomanagement?

0 

Risicoanalyse is alleen gericht op interne operationele risico's

0 

Er wordt geen aandacht besteed aan externe risico's zoals klimaatverandering of strengere milieuwetgeving

8 

Er moet actief risicomanagement worden uitgevoerd voor externe factoren zoals klimaatverandering en strengere wetgeving

0 

Risicomanagement wordt alleen uitgevoerd in geval van operationele storingen

3. Wat wordt onder de nieuwe ISO 55000-norm verwacht met betrekking tot risicomanagement?

✓ Er moet actief risicomanagement uitgevoerd worden voor externe factoren zoals klimaatverandering en strengere wetgeving.

ISO 55001 (2024) – Key changes

Asset management system — Requirements

4.5 Asset management decision-making and value (NEW)
Purposed to help connect decision-making for all sizes of organisations.

6.1.2 Actions to address risk (NEW)
Provides clarity on the risks related specifically to asset management.

6.1.3 Actions to address opportunities (NEW)
Separates risk and opportunity.

6.2.1 Strategic Asset Management Plan (NEW)
Provides a polished version of the SAMP to be used as a key artefact in supporting organisational planning.

7.6 Data and information (NEW)
Provides emphasis on the difference between data and information for asset management.

7.7 Knowledge (NEW)
Emphasises the importance of context with data and information to a successful organisation.

10.3 Predictive action (NEW)
Defines predictive action as anything that seeks to adapt changes, as an alternate to preventative action.

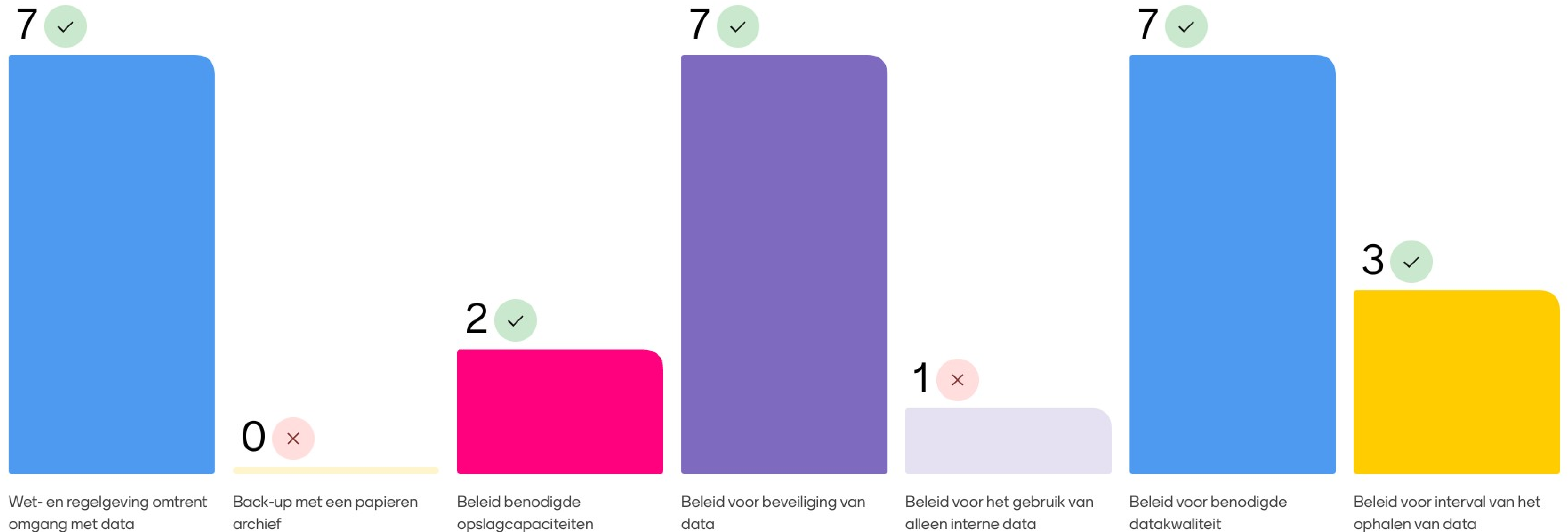


Asset Management Subjects	Do Subjects Map?	ISO 55001:2024
Subjects Listed in order of the 10-box Model		
Purpose & Context		
Organizational Purpose and Context		Section 4
Stakeholder Management		Section 4
Leadership & Governance		
Asset Management Leadership		Section 5
Asset Management Policy		Section 5
Asset Management System		Section 4
Asset Management Assurance and Audit	N	
Technical Standards and Legislation	N	
Organization & People		
Organizational Arrangements		Section 5
Organizational Culture	N	
Competence Management		Section 7
Organizational Change Management		Section 6
Strategy & Planning		
Demand Analysis	N	
Sustainable Development	N	
Asset Management Strategy and Objectives		Section 6
Asset Management Planning		Section 6
Shutdown & Outage Strategy & Planning	N	
Contingency Planning & Resilience Analysis	N	
Resource Strategy and Management		Section 7
Supply Chain Management	N	
Life Cycle Value Realization	N	
Asset Costing and Valuation	N	
Asset Management Decision-making		
Decision-making		Section 4

© Copyright The Institute of Asset Management 2024. All rights reserved.



4. Welke onderdelen moet een Data Management Systeem minimaal bevatten volgens ISO55000:2024?



4. Welke onderdelen moet een Data Management Systeem minimaal bevatten volgens ISO55000:2024?

- Nieuw in de ISO geïntroduceerd!
- Wat betekent data management specifiek voor AM?

Typische Asset Data volgens ISO:

- ✓ GIS data
- ✓ Condition monitoring
- ✓ Asset costing and valuation
- ✓ Demand forecast (changing over time)
- ✓ Storage management of spares

7.8.4. Asset Management Data and Information Management

Data and Information should be managed within an Asset Management System to achieve both asset management and organizational objectives.

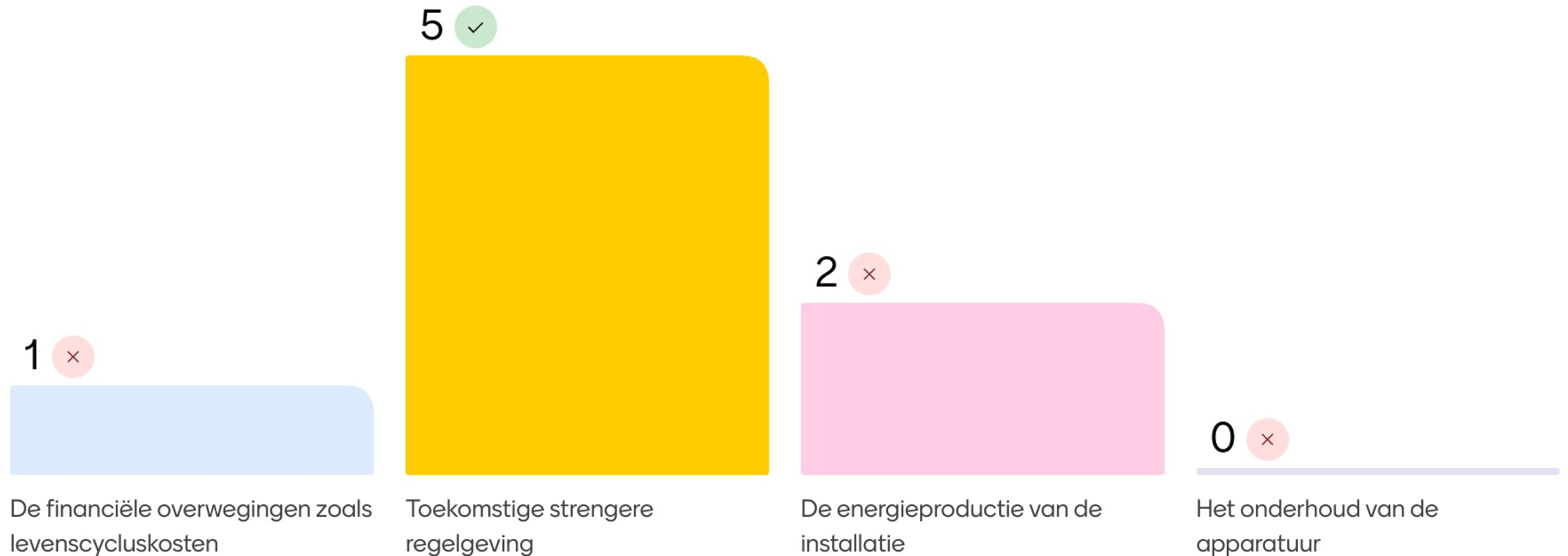
The management process should consider:

- **legal requirements:** the legal requirements for holding, managing, and transferring asset data;
- **data dictionaries:** data specifications and requirements from the organization's management system to enable consistent definition of attributes, units of measurement, criticality, quality, and source for the different types of asset data;
- **data frequency:** the frequency for updating data; while some asset data may remain static across all life cycle stages others can be updated at pre-defined intervals of time, frequency can also align to legal or regulatory requirements.
- **data volume:** the volume of data can determine which tools and storage environments are most appropriate to be used, including BIM and Digital Twin which can require large storage repositories.
- **data security:** including access, loss of confidentiality, improper use, or improper modification, alterations, and deletions;
- **data availability:** ensuring the availability of data is defined and accessible by the asset management team when required; including BIM, telemetry data, as applicable;
- **data responsibility:** clear allocation of roles and responsibilities related to the management of asset data.
- **data quality:** definition of required data quality,

Typical Asset Management Information Systems include:

- An asset register to detail the assets of interest to an organization;
- A Geographical Information System (GIS) and / or topological systems to record the location and spatial details of assets;
- Work management systems to plan and record work activities related to an asset;
- Logistics systems to manage the storage, issuing and use of materials and spares;
- Shutdown / outage management systems to plan access to assets for work activities, including permits;
- Demand management systems to forecast how demand on assets will change over time;
- Decision support tools such as investment modelling systems to support strategic planning activities;
- Processes for migration from external to internal systems, and vice-versa;
- Process, telemetry and SCADA systems to record how well assets have performed and are meeting their service requirements;
- Common data environments, to collect, manage and disseminate model data and documents between multi-disciplinary teams to provide a collaborative working environment;
- Condition monitoring systems to monitor key condition indicators of assets, such as temperature and vibration, to help predict possible future failures;
- Mobile working devices to collect data and information from, and disseminate it to, front-line operations and maintenance staff;
- Resource management including training and competency records, see Resource Strategy and Management (Section 7.5.7);
- Financial management to manage commercial aspects, such as reporting, see Asset Costing and Valuation (7.5.10);
- Sustainability information to record progress

5. Wat wordt mogelijk niet in overweging genomen bij het beheer van assets volgens de oude ISO?



5. Wat wordt mogelijk niet in overweging genomen bij het beheer van assets volgens de oude ISO?

✓ Toekomstige strengere regelgeving

Voorbeeld: CO2 uitstoot terugdringen

The Value Framework and decision-making criteria need to be adaptive of changing conditions. Periodic reviews are needed to adjust for changes in context, both externally and internally. For example, new emerging risks or opportunities, new regulations, climate change, demographics, service demand, competition, supply chain dependencies, technology change/obsolescence and ageing/deterioration of assets and systems.

6. Wat wordt onder de nieuwe norm als belangrijk beschouwd bij langetermijnplanning voor assetbeheer?



6. Wat wordt onder de nieuwe norm als belangrijk beschouwd bij langetermijnplanning voor assetbeheer?

✓ Het in overweging nemen van kosten, prestaties, milieu impact en sociale verantwoordelijkheid

Voorbeeld: SAMP voor een offshore solar farm
SAMP voor hydrogen fabriek
Nieuwe innovatieve technologieën; key: duurzaamheid

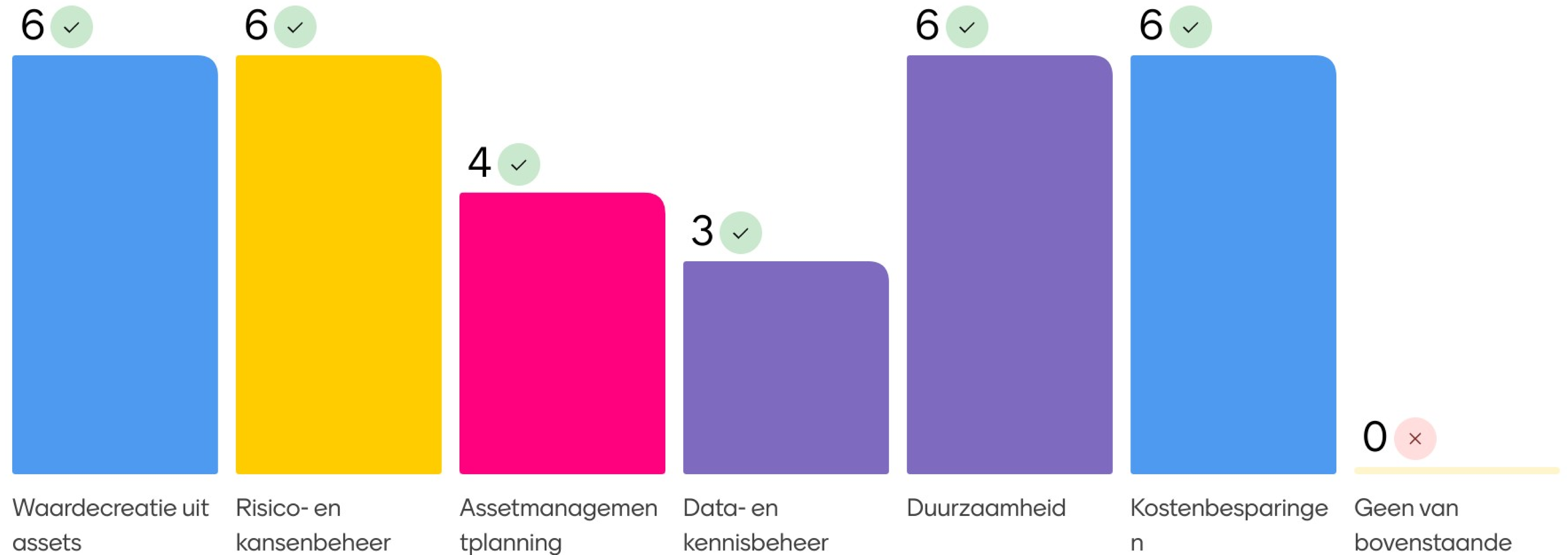
An organization's assets determine much of its economic, social, and environmental impacts over multiple timeframes. Environmental protection and social improvements are important quality-of-life factors that can affect the long-term value proposition of the organization. Setting clear sustainability objectives and criteria enables decision-making through the asset life cycle. Decisions can be consistently evaluated and tracked for effectiveness. Examples include incorporating the use of new technology and innovation, efficiency improvements by asset reduction, redeployment or repurposing, life extension and recycling.

7.5.3. Asset Management Strategy and Objectives

The Strategic Asset Management Plan (SAMP) specifies the organization's long-term and life cycle approach to managing the assets to deliver the organizational objectives. It details the asset management strategy, asset management objectives, the levels of service and performance needed to satisfy objectives, the resources and capabilities needed to deliver sustainable outcomes, and the information needed to enable the development of the asset management plans (See Planning 7.5.4).



7. Welke thema's vindt u belangrijk bij het maken van een investeringsbesluit?



7. Welke thema's vindt u belangrijk bij het maken van een investeringsbesluit?

Alles is goed; gebaseerd op doelstellingen bedrijf !

- ✓ Waarde creatie uit assets;
- ✓ Risico en kansenbeheer;
- ✓ Assetmanagement planning;
- ✓ Data- en kennis beheer
- ✓ Duurzaamheid
- ✓ Kostenbesparing

Asset Management Decision-making

Decision-making

Decisions are choices made under conditions of uncertainty, complexity, and constraint. Decisions are the primary means of allocating and reallocating the organization's finite resources consistent with its value framework to achieve its strategic objectives. Investment decision-making comprises the policy, principles and criteria, decision-support techniques, information, and processes to address risks or opportunities. The development of alternatives and the selection of priority solutions across the full life cycle to deliver value to stakeholders.

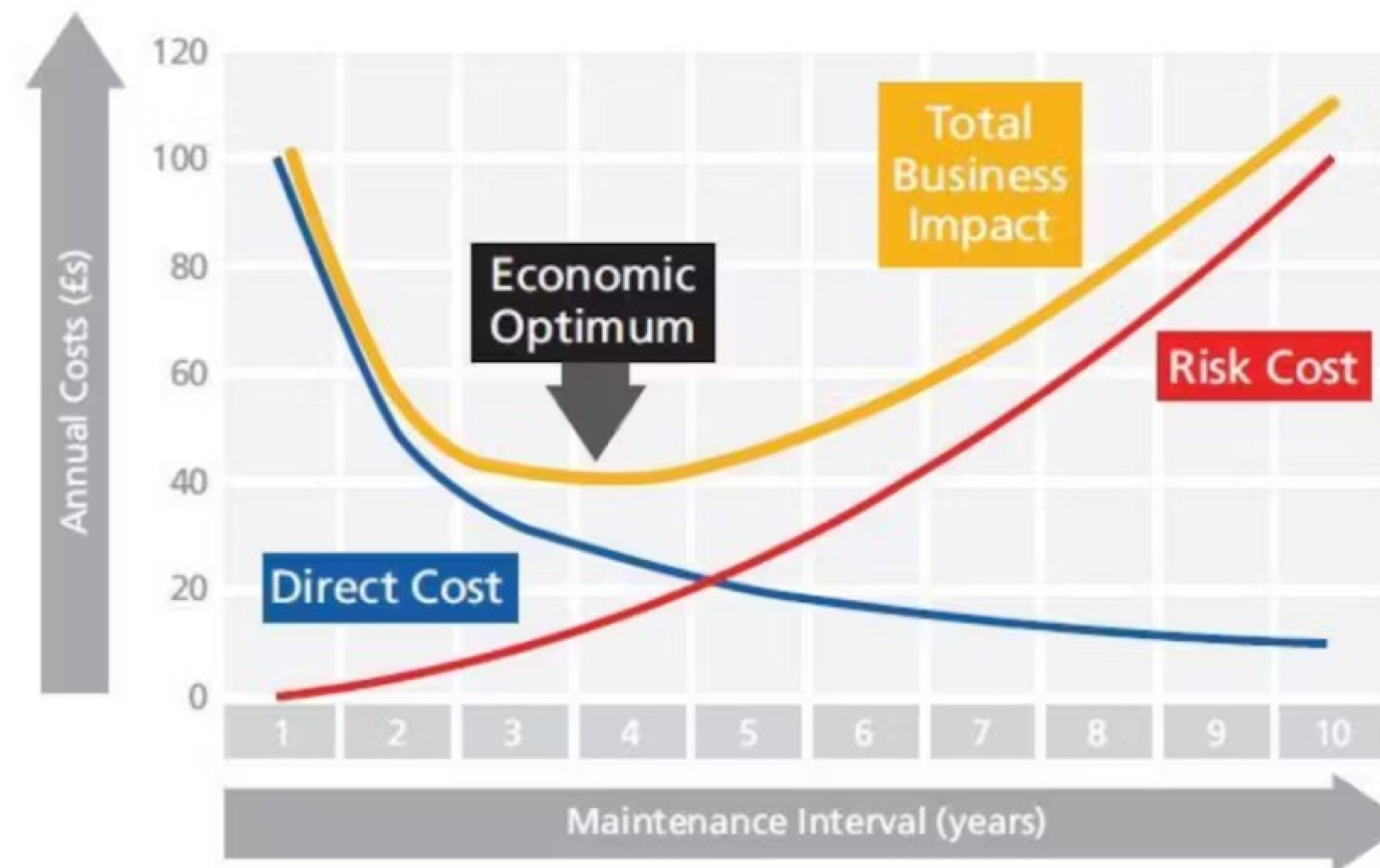
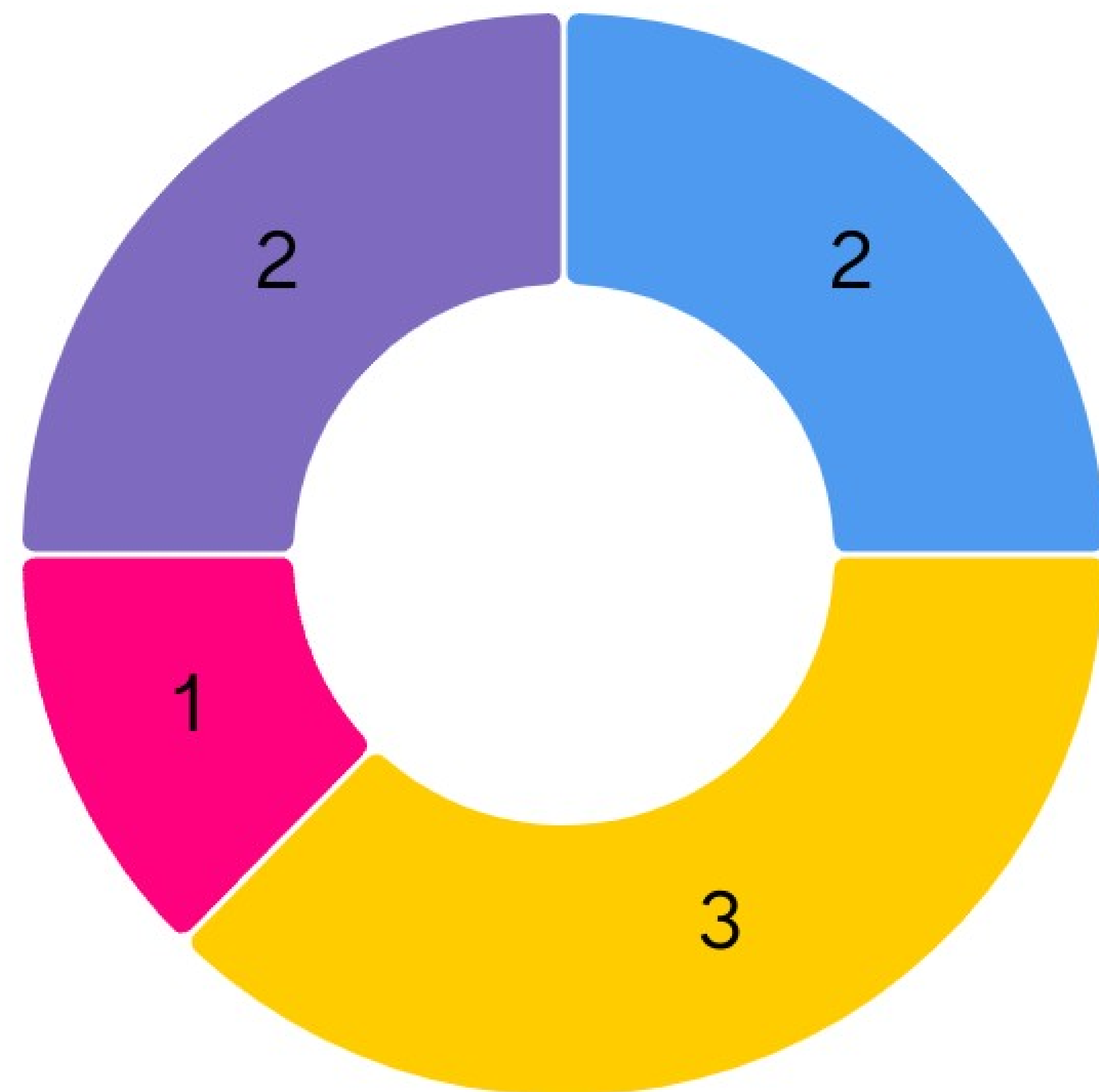


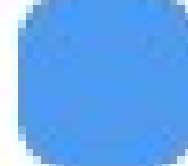
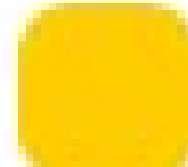
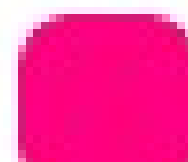
Figure 15: Example of optimizing (interval of planned maintenance)

8. In welke mate mag duurzaamheid ten koste gaan van winst?



- 2 Het moet juist meer winst op leveren
- 3 Het mag geen effect hebben op winst
- 1 Het mag ten koste gaan van winst
- 2 Onduidelijk, in de praktijk loopt het toch altijd anders

9. Hoe wordt binnen uw organisatie omgegaan met de keuze tussen hergebruik van assets en decommissioning?

-  We kiezen voornamelijk voor repurposing vanwege de hoge kosten van nieuwe assets
-  Decommissioning is nog steeds de standaard, omdat dit eenvoudiger te organiseren is
-  We maken een bewuste afweging, waarbij duurzaamheid en kosten beide een rol spelen
-  Er is nog weinig aandacht voor dit onderwerp binnen onze organisatie

9. Hoe wordt binnen uw organisatie omgegaan met de keuze tussen hergebruik van assets en decommissioning?



Figure 18: Waste Hierarchy

Asset Repurposing or Disposal includes the integration with other asset management activities. Re-use, reclamation, recycling and reduction of waste and carbon footprint encourages organizations to include repurposing and recycling as key considerations in asset decommissioning activities as part of life cycle management. The financial and risk management implications of asset repurposing or sale or disposal are significant inputs to asset management decision-making.

For further information see SSG on Decommissioning and Disposal, SSG on Life Cycle Value Realisation and SSG on Capital Investment, Operations and Maintenance Decision-Making.

Some of the options that may exist for Repurposing and Disposal are:

- Sale of assets with residual value and a market;
- Component cannibalization within the organization;
- Deployment as a training aid;
- Redeployment or reuse by another organization;
- Recycling by a third party;
- Scrap;
- Donation.

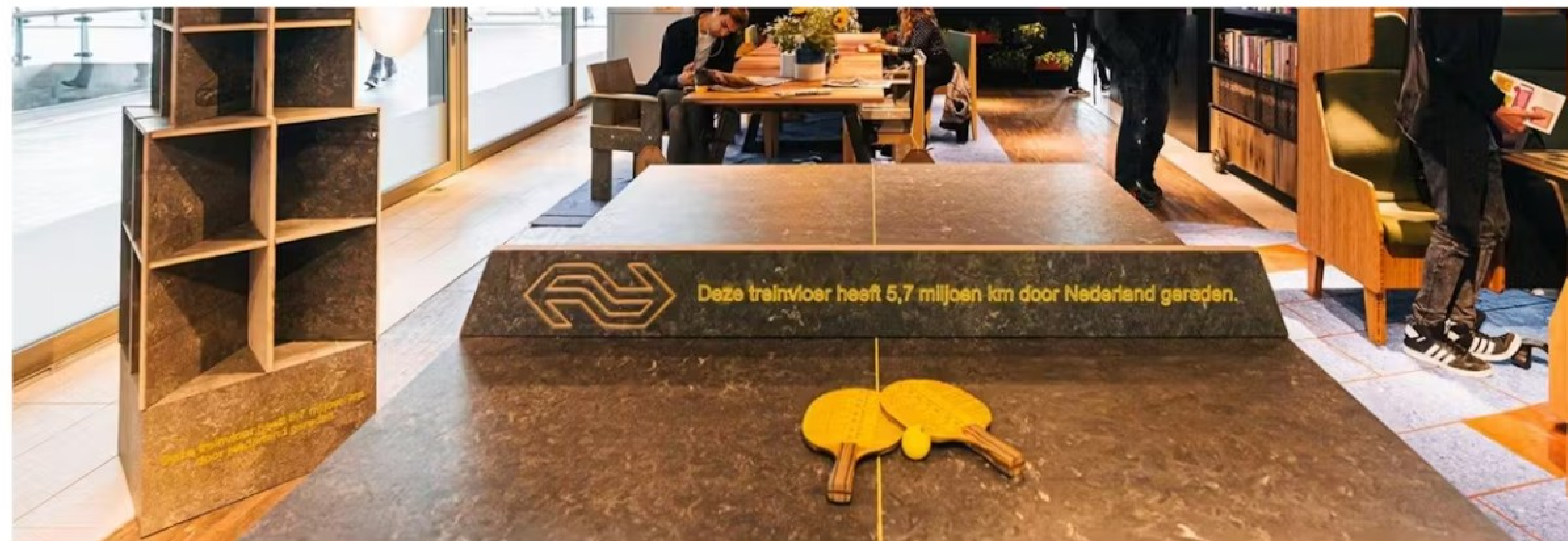
The SAMP and asset management plans should have considered end of life management and the need for asset renewals, repurposing and decommissioning

as part of the asset lifecycle planning. The driver for renewals, repurposing and decommissioning could be economic due to increased unplanned failures for example but could also be for other reasons such as environmental and legislative changes. The approach to renewal, repurposing and disposal will very much depend on the maturity of the asset management in the organization, the asset class, and alignment to the other aspects of life cycle activities. For example, high-value, low-volume assets (e.g., water treatment plants) would typically experience reuse / repurposing, whereas low-value, high-volume run-to-failure-and-replace assets (e.g., smart meters) will be managed by like-for-like replacements and material recycling / recovery or disposal.

The end of life is a key point of Value Realization. Learning from end of life decisions should feed into the lessons learned for new asset life cycles, both challenging assumptions on lifetime and end of life options when replacing assets. For some large public assets where large losses have occurred at disposal, this point of value has triggered shifts in infrastructure policy to protect future national liability, (e.g. demilitarization, dismantling and disposal of military assets).

Options that prevent waste and result in no residual contamination are generally preferred, followed by reuse / repurposing and finally recovery and then disposal. See Figure 18. Rising material costs and legislation often incentivize organizations to take this approach, and organizations often require materials and supply chain circularity audits, environmental impact analysis, and land rehabilitation plans to better understand the options available.

Circulair denken bij de NS!



Beperk (nieuw) grondstofgebruik

We stimuleren ons personeel en reizigers om afval te verminderen.

> Lees meer



Optimaliseer materiaalgebruik

Welke mogelijkheden zijn er om afval te scheiden?

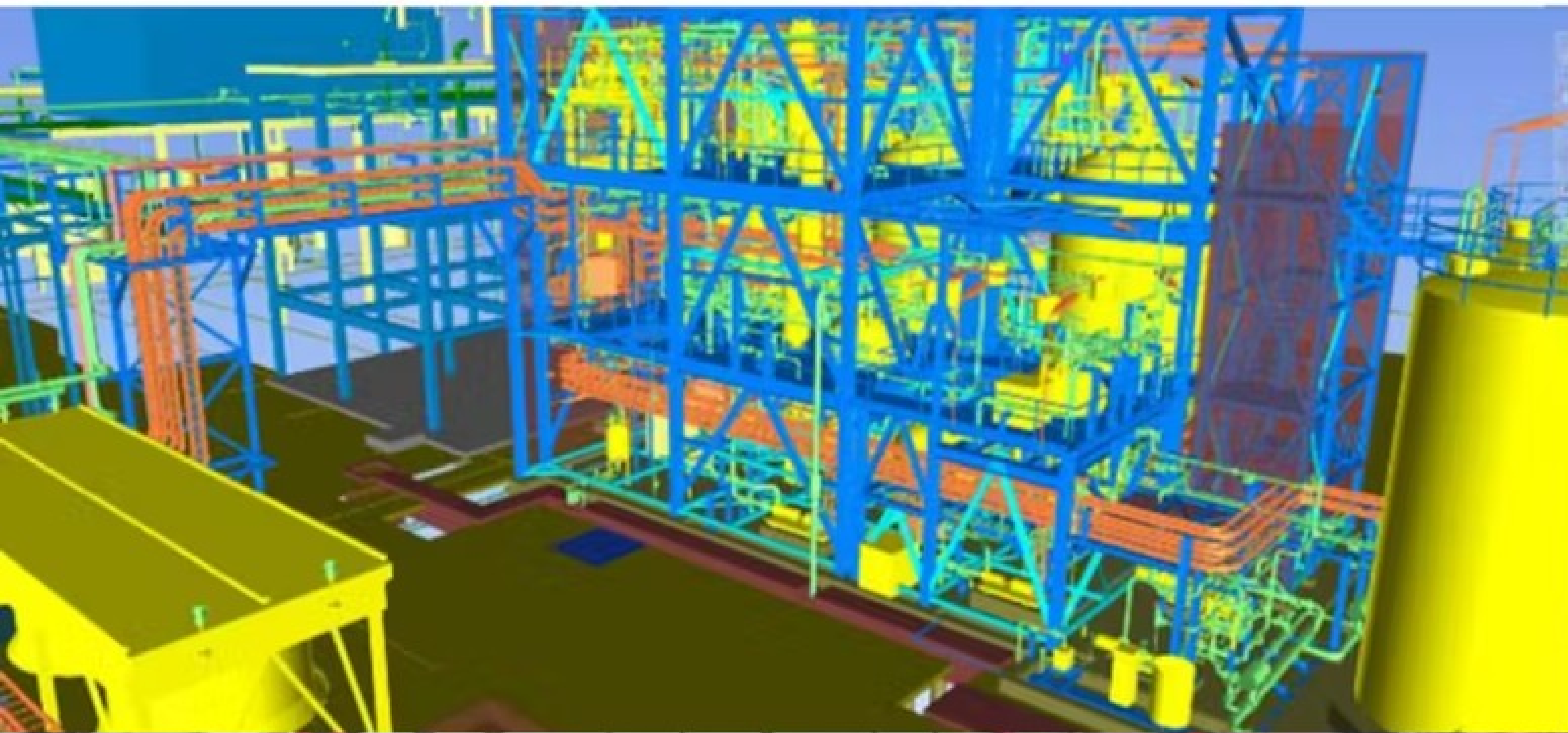
> Lees meer



Afval bestaat niet

NS producten krijgen een nieuwe bestemming

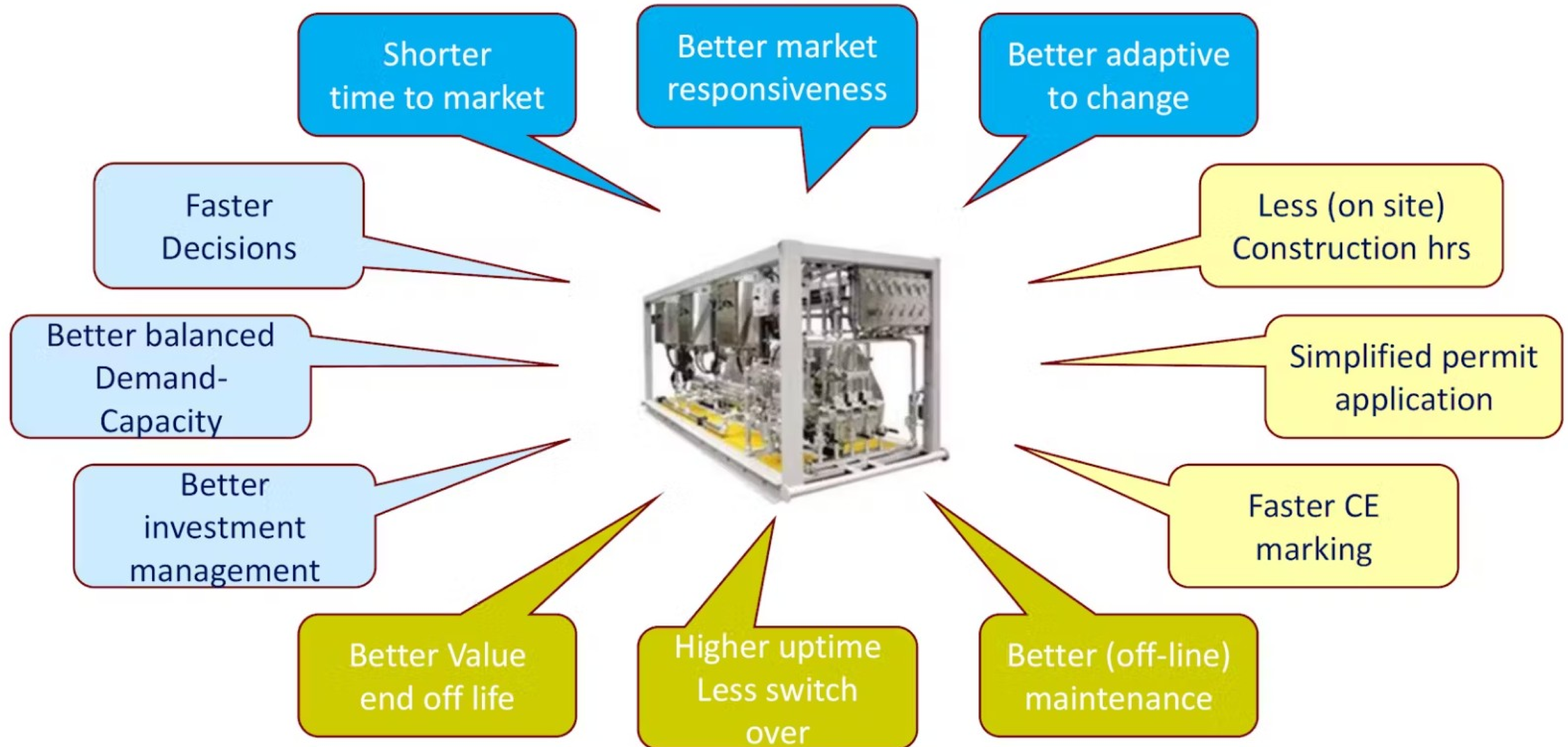
> Lees meer

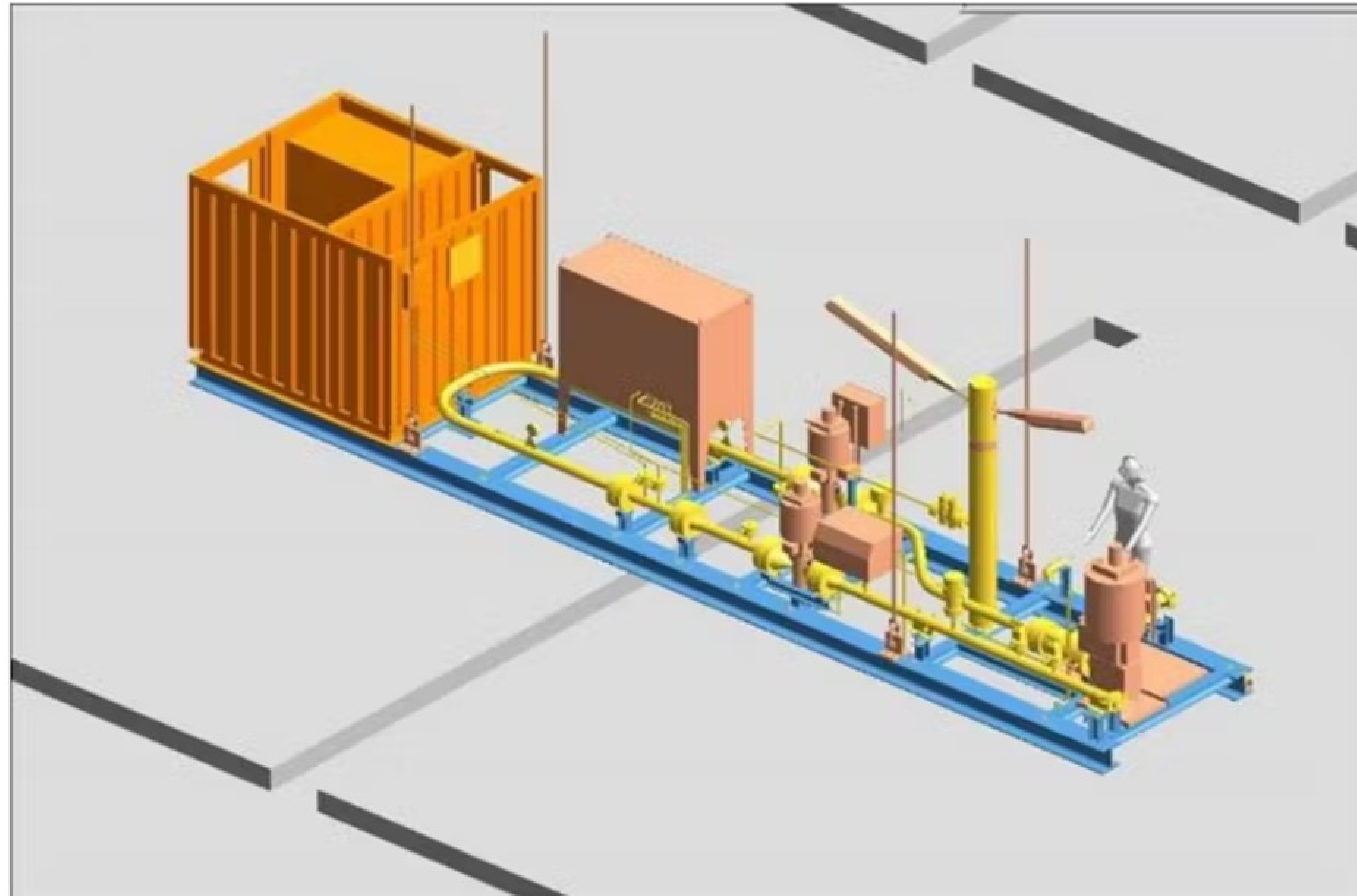


Less (on site)
Construction hrs

Modular Concepts

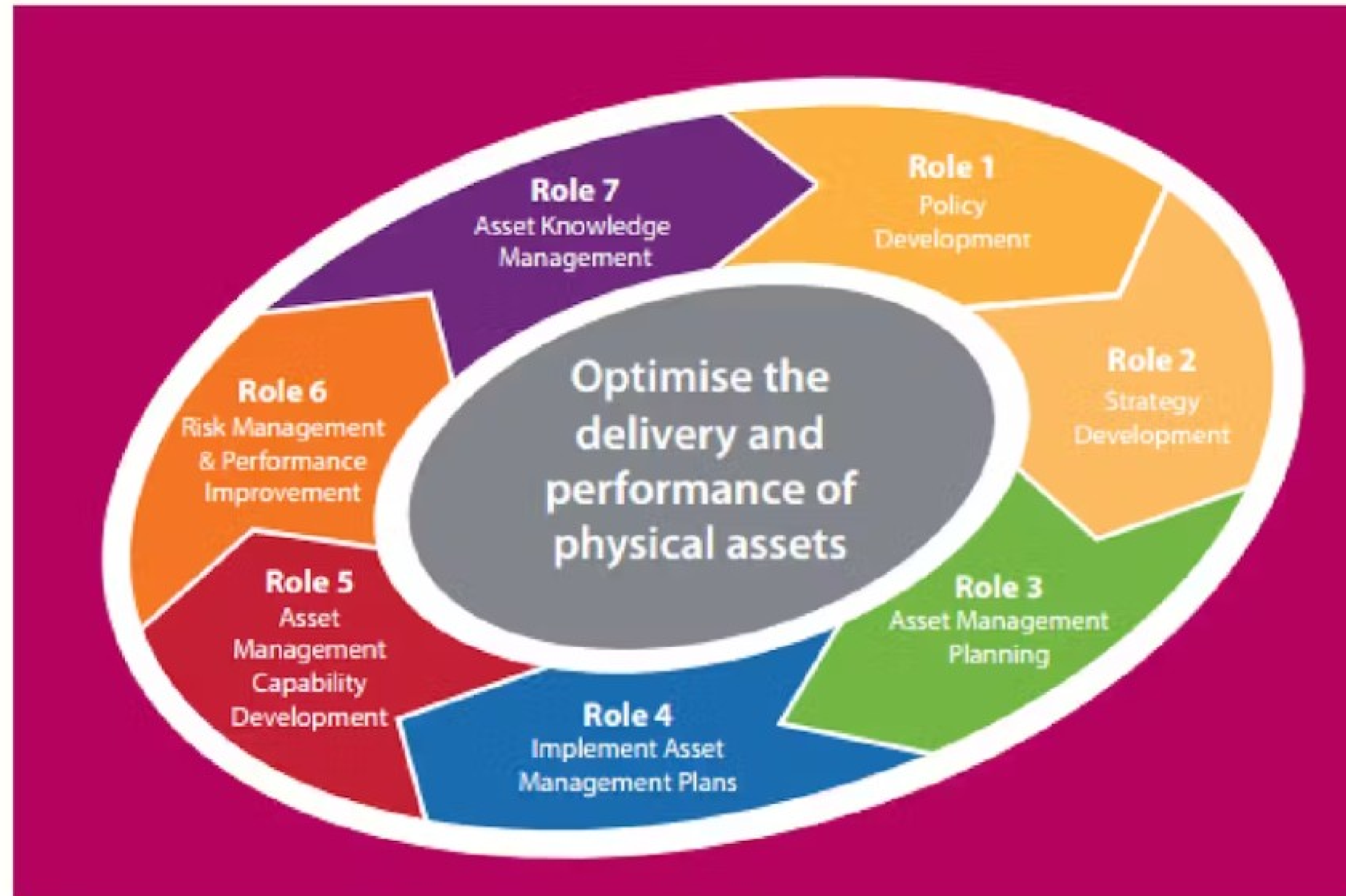
Some Benefits



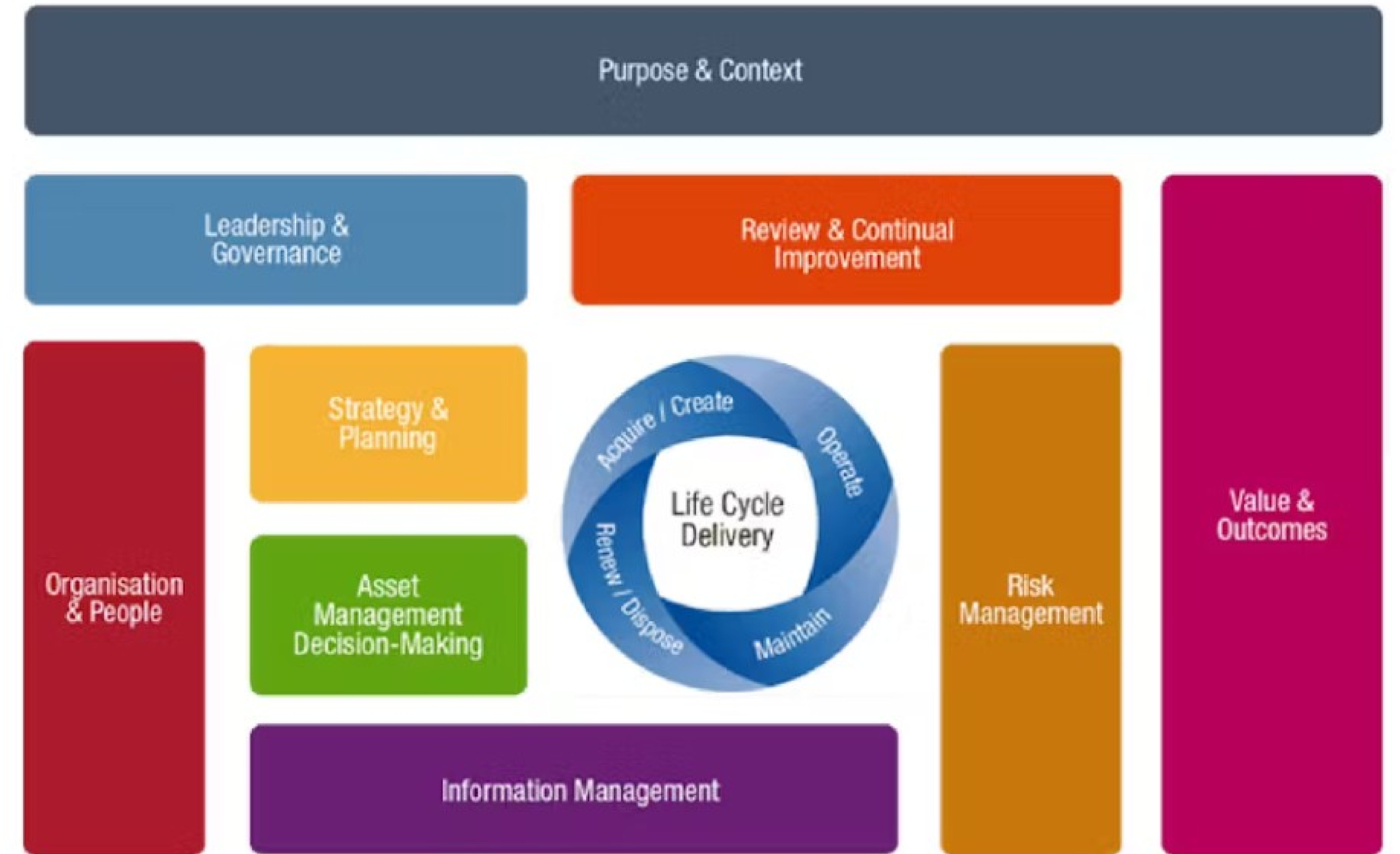


Samenvattend... Wat zijn de verschillen?

ISO 55000:2014



ISO 55000:2024



Thank you for your attention.

Contact us



Asset Management Technology
Niek Warringa
Asset Management Consultant
niek.warringa@stork.com



Asset Management Technology
Nina Fozein Kwanke
Sr. Asset Management Consultant
nina.fozeinkwanke@stork.com



Asset Management Technology
Tewes Zeef
Sr. Asset Management Consultant
tewes.zeef@bilfinger.com



Asset Management Technology
Joris Grimbergen
Principal Asset Management Consultant
Joris.Grimbergen@stork.com

