Data i FM

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The LEGO Group

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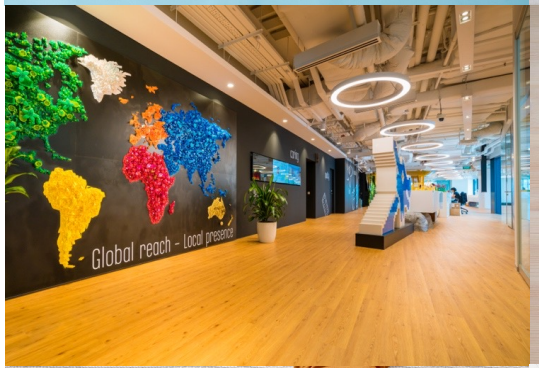
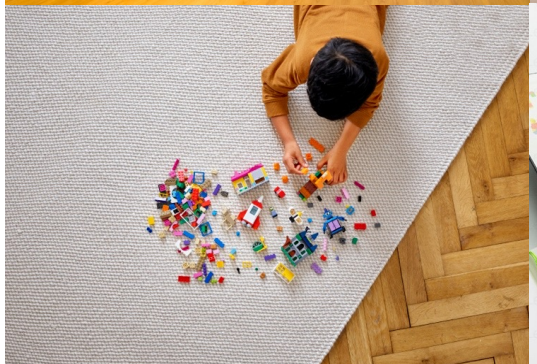
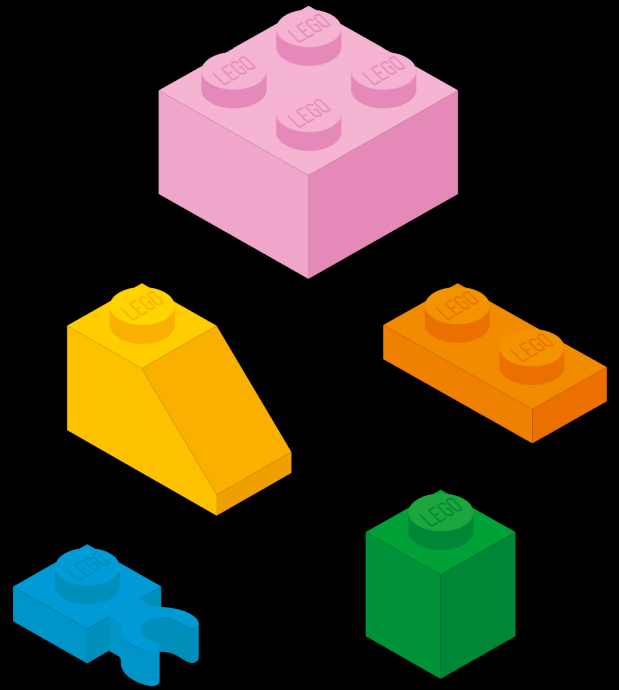
Content



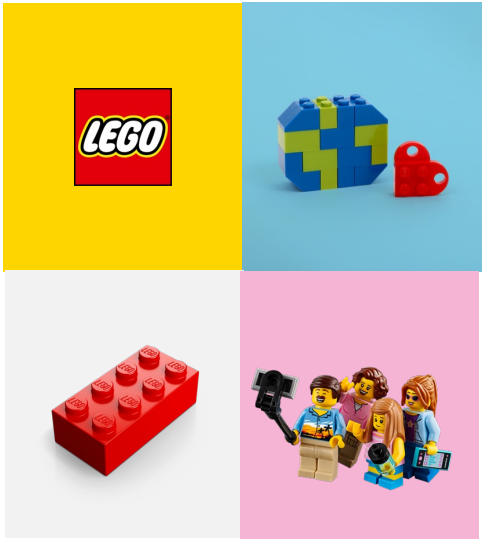


Data i FM – hvilke data har vi allerede adgang til?



Data i FM – hvilke data har vi allerede adgang til?

Reception
Helpdesk
Facility Management
CAFM system
Catering
Finance
Service request
Real Estate
Ownership
Assets
Buildings
Admini-stration
Meeting Rooms
Security
Rentals
Inventory
Building core functionality / purpose
Construc-tion
Risks
Work Places
Pests
Payment systems
Outdoor areas
Ground
Weather
Space
Water
BMS
Drawings
Sensors/ Meters
Energy
Waste
Suppliers
Surveys



Håndtering af data for fysiske assets (FM)

Hvad er fysiske assets indenfor FM?

Reception
Helpdesk
Facility Management
CAFM system
Catering
Finance
Service request
Real Estate
Ownership
Assets
Buildings
Admini-stration
Installationer Bygninger
Bygningsinventar Bygningsdele
Meeting Rooms
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Drawings
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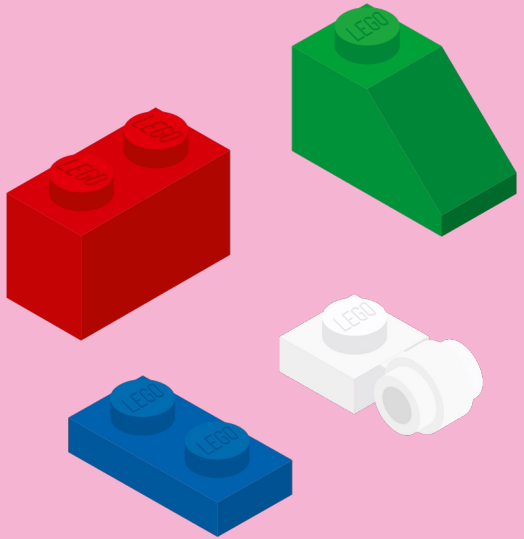
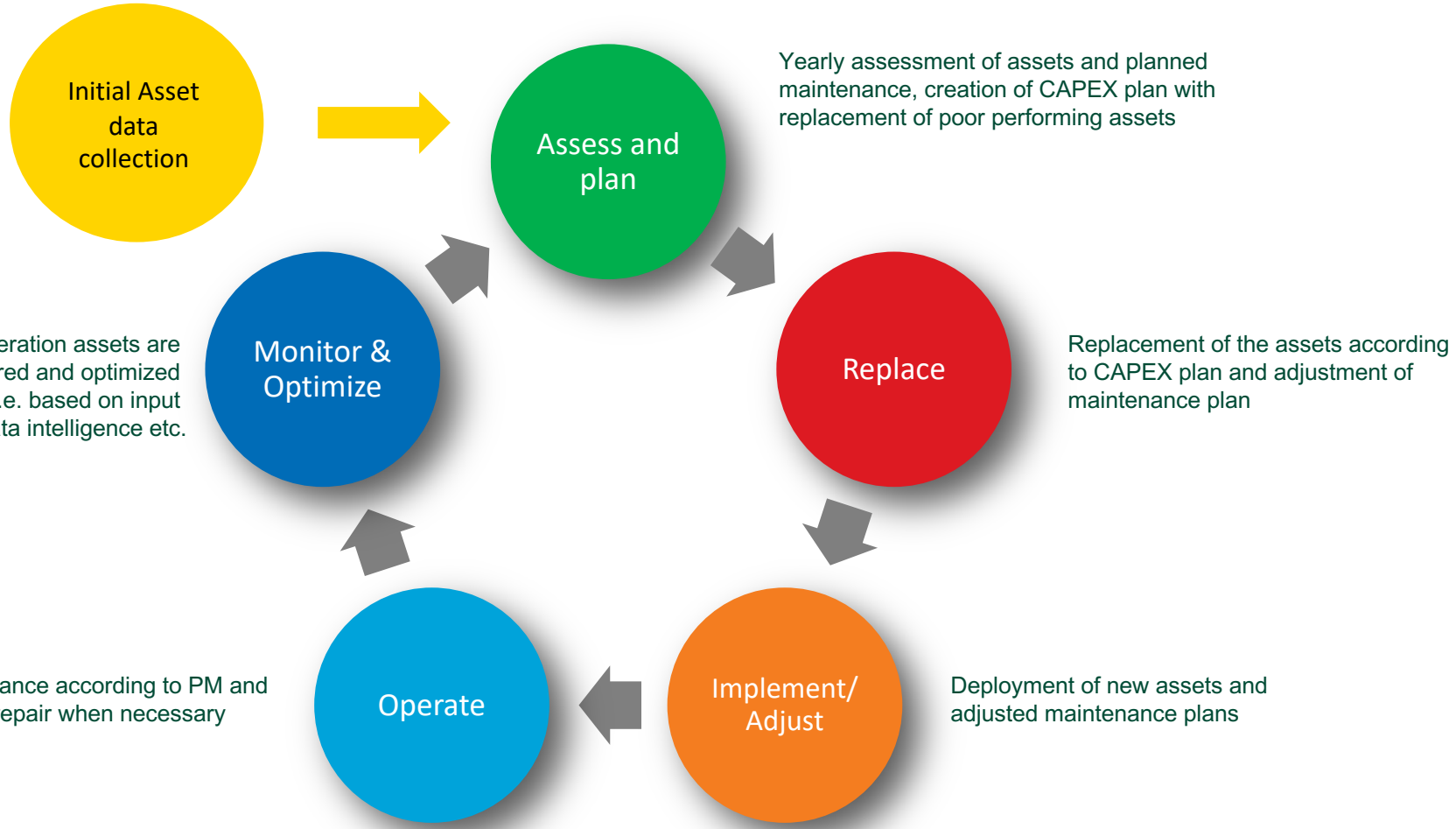
Waste
Suppliers
Surveys

Og hvad påvirker dem / hvor arbejder vi med dem?

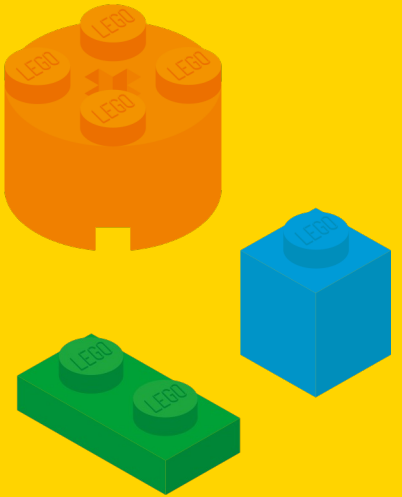
Life Cycle Asset management



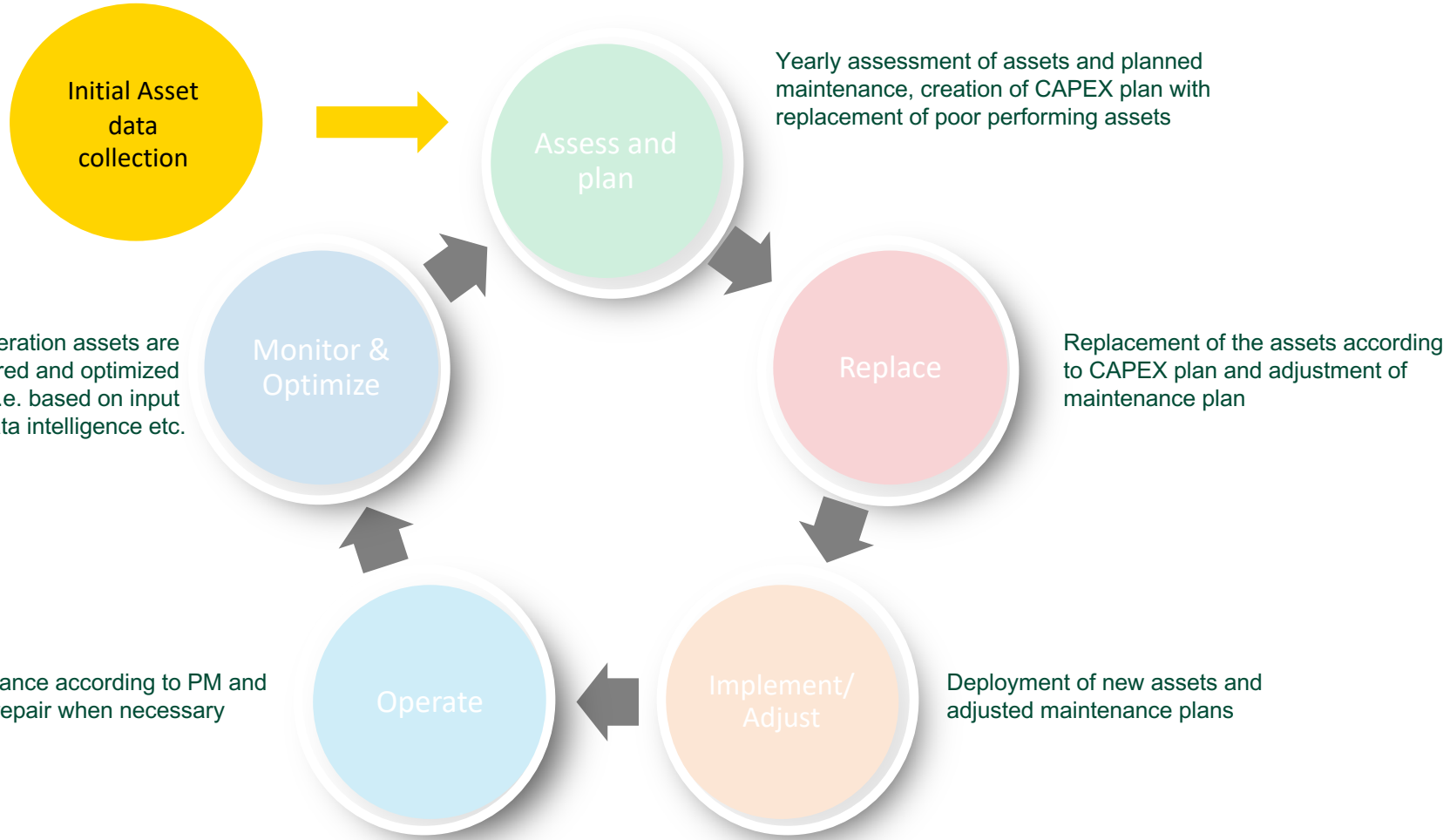
Life Cycle Asset management



Initial Asset data collection



Life Cycle Asset management



Asset Data collection and validation

A: Asset input in Facility Management System (FMS) off site

1: Get asset data	2: Prepare data for upload / typing in FMS and create barcode (=QR code)	3: Upload /type in FMS	4: Create barcode (main rule = Asset ID) and QR code	5: Print label with QR code (“picture”), asset ID, asset name, Asset location, asset type

B: Asset validation on site:

1: Put label on asset	2: Scan QR code	3: Validate asset data (name, type, location)	4: Evaluate asset criticality	5: Evaluate asset condition	6: Estimate asset replacement cost	7: Save

Criticality, Workorders and Replacement Cost

Criticality Assessment Rating		Workorders	Replacement cost mandatory with condition				
	Criticality Description	Workorders mandatory when handling	A: Beyond usefull life (<0, year)	B: End of life (½-2 years)	C: OK (3-6 years)	D: Good (>7 years)	E: As new (>10 years)
Safety	Life Safety, Fire Safety and Security systems	Yes	Yes	Yes	Preferably	No	No
Business critical	Asset which, when affected, will immediately impact the core business Asset which, when affected, can cause loss of use to entire facility or a critical system or area which will severely limit the intended function or image of the building	Yes	Yes	Yes	Preferably	No	No
Business support	Other important asset which, when affected, will cause an interruption, but for which time exists to recover before impacting business	Yes	Yes	Yes	Preferably	No	No
Site suport	Any other asset which, when effected will not have any business impact but causes annoyance or less comfort to the customer	No	Yes	Yes	No	No	No

Asset Condition rating

A. **Beyond usefull life**: Expected EOL < 0,5 year

B. **End of Life**: Condition poor. Increased service interval, Can fail at any time, A Replacement (plan) should be considered, Expected EOL ½-2 years

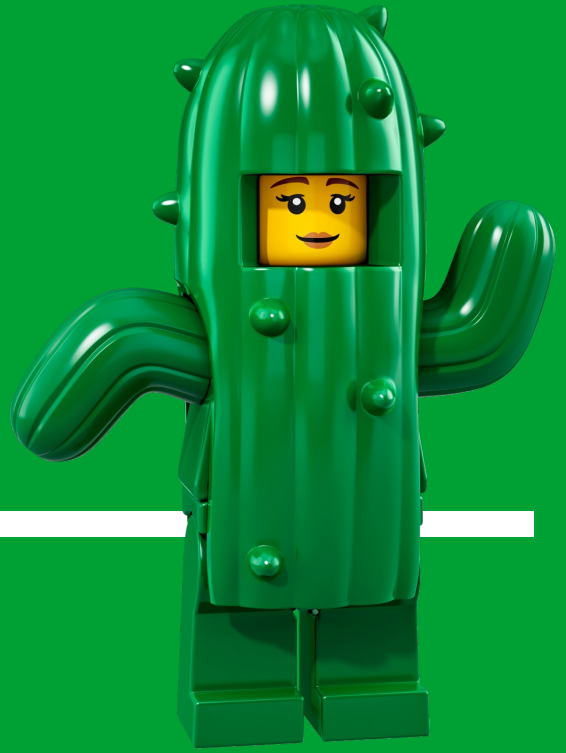
C. **OK:** Condition, Expected EOL 3-6 years. A replacement/ condition improvement plan should be descussed with client.

D. **Good:** Condition. Expected EOL > 7 years.

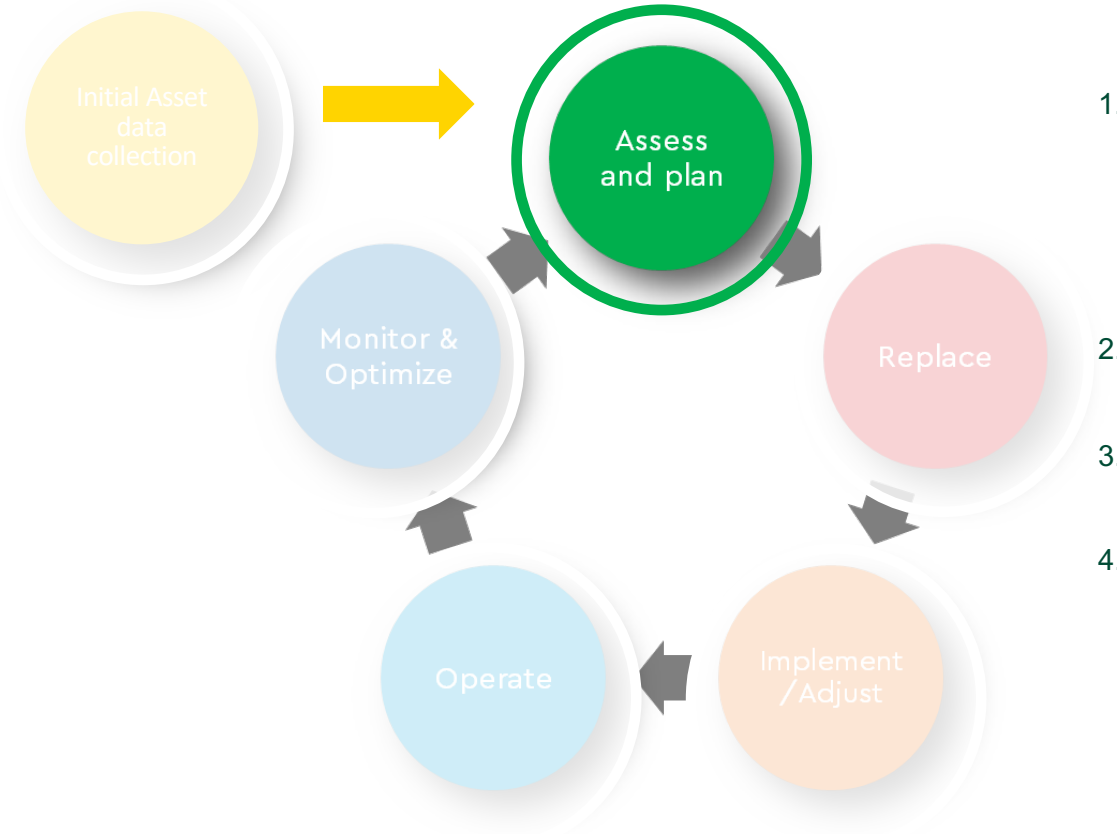
E. **As New**: New or as good as new Expected EOL > 10 years

NA: Not assessed: No validation of assets possible / available

Assess and plan

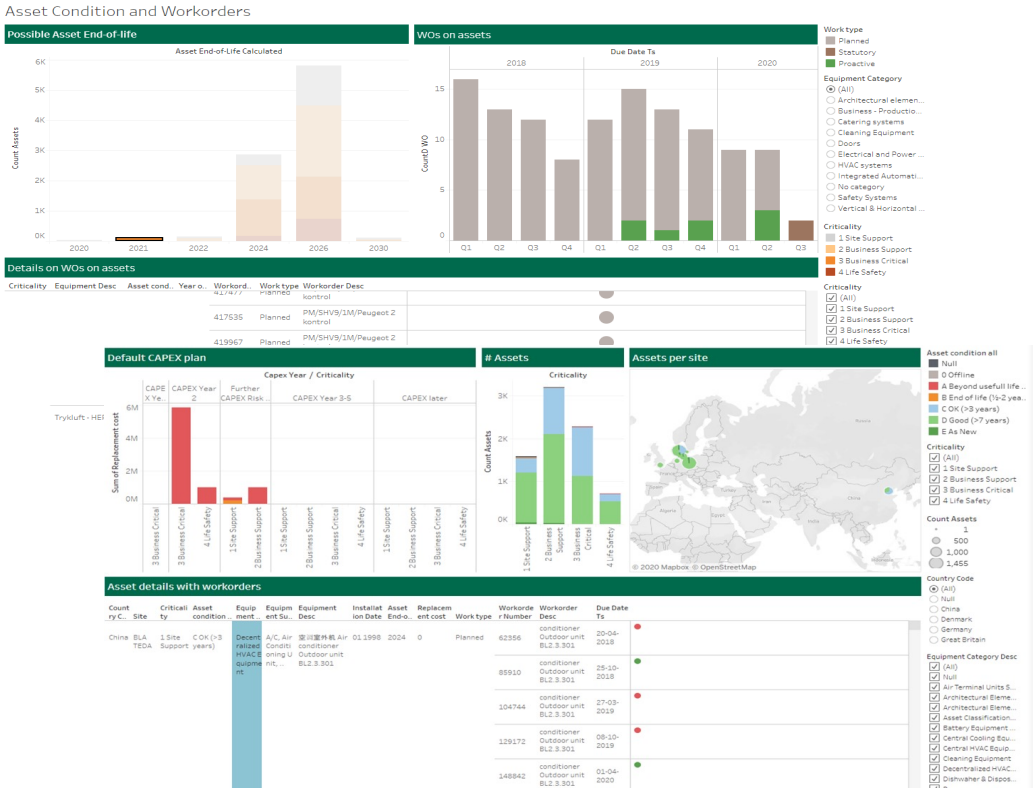


Yearly Re-assessment of assets



1. Every year 5 months before budget year starts
   - Re-assess conditions
   - Re-assess Criticality
   - Re-assess Replacement Cost for assets according to the agreed combination of condition and criticality:
2. Create suggested CAPEX plan with replacement of poor performing assets
3. Prior to budget process for next year discuss CAPEX plan
4. Create adjusted PM plan according to re-assessment and number of ad hoc maintenances in the past

1f - asset Data collection - Life cycle vs. workorder historic



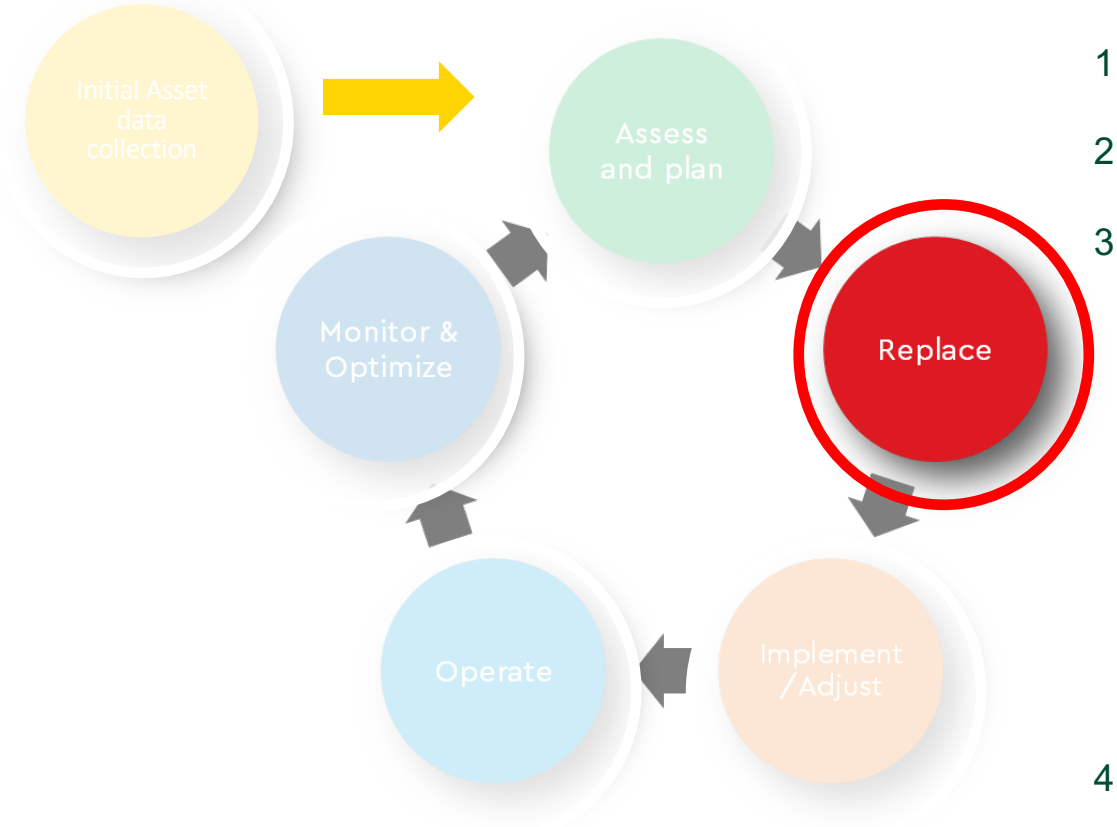
Based on WO history, you may find argument to either up-grade or replace an asset.

You may also experience a need for changes of the PM regime, either on frequency or job-plans or both.

Any change needs to be highlighted in order to agree/sign off the future impact to the OPEX and CAPEX budget

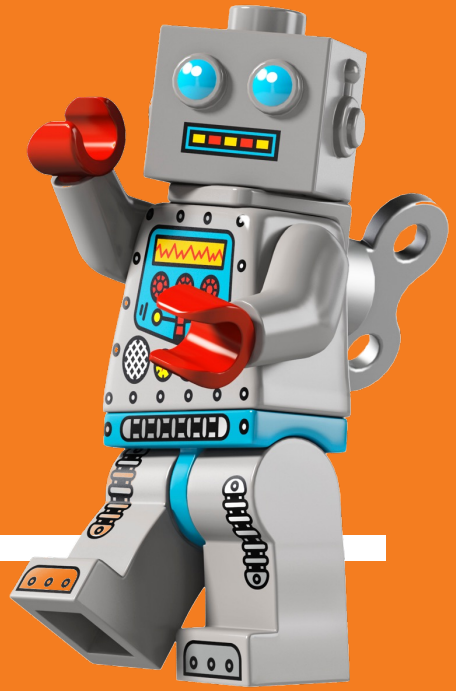
Replace

Replacement of assets

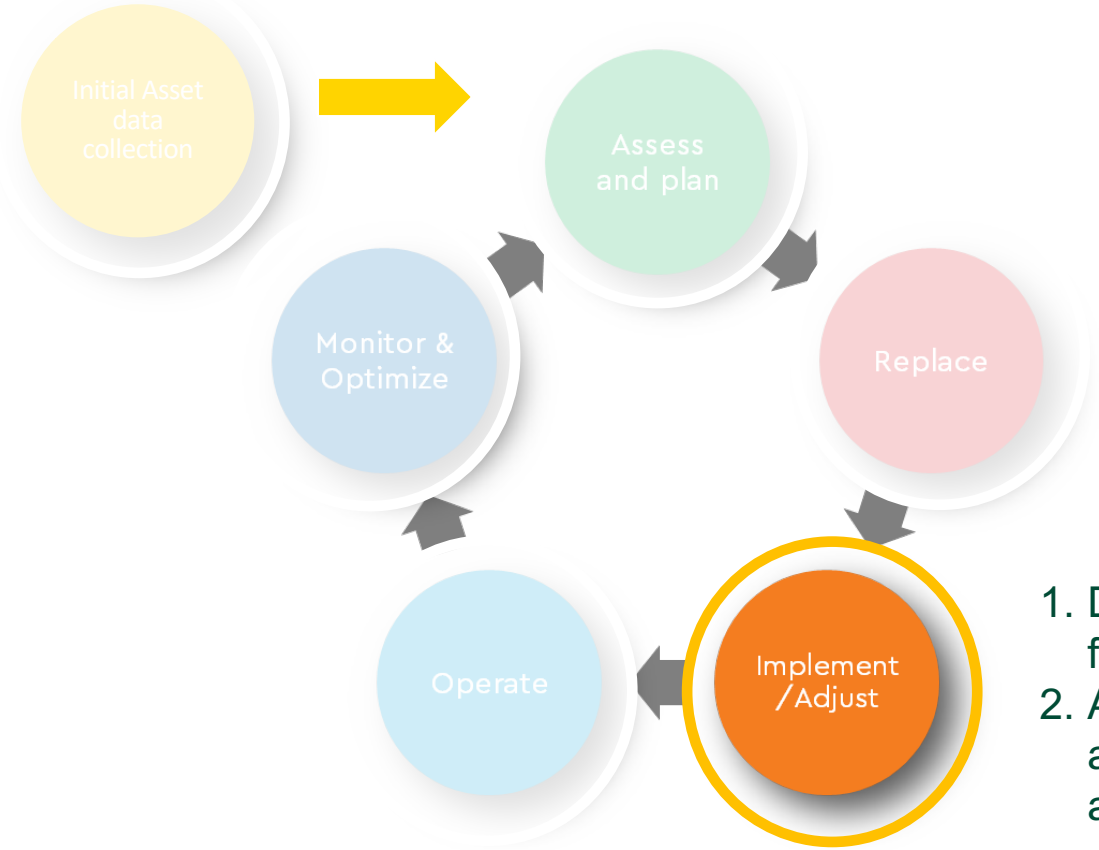


1. Present Asset Criticality categorization and suggested CAPEX
2. Secure approval of criticality categorizations
3. Get approval of
    1. Which assets needs to be replaced and agree on how to handle the replacement(CAPEX planning).
    2. How to handle assets in suggested CAPEX plan which are decided not to be replaced
        1. Increased maintenance cost, due to increased maintenance cost
        2. And/or accept of breakdowns due to lack of replacement
4. Plan and manage the replacement projects

Implement / Adjust



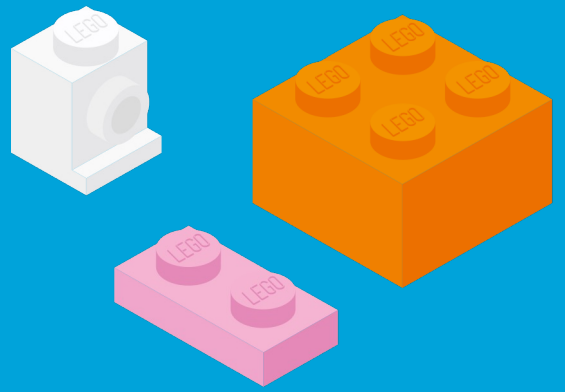
Implement and adjust PPMs



Building Component	Description	Frequency** – E.g. every x. day, week, month or year				Remarks	Documentatio
		day	week	month	year		
Requirements for CBRE' buildings							
Building envelope							
Door	Inspection of doors				1		in FMP
Window	Inspection of windows				1		in FMP
Exterior wall	Inspection of exterior walls				1		in FMP
Roof	Inspection of roof			6			in FMP
Flexible joint	Inspection/Replacement of flexible joints				5		in FMP
Outlet/Inlet	Inspection of outlets/inlets				1		in FMP
Overhead door	Mandatory inspection of overhead doors				1	Mandatory in Denmark.	Service docun FMP
Revolving door	Mandatory inspection				1	Mandatory in Denmark.	Service docun FMP

1. Deploy new assets and create PMs for these
2. Adjust PMs according to agreements with customer and/or according work order historic

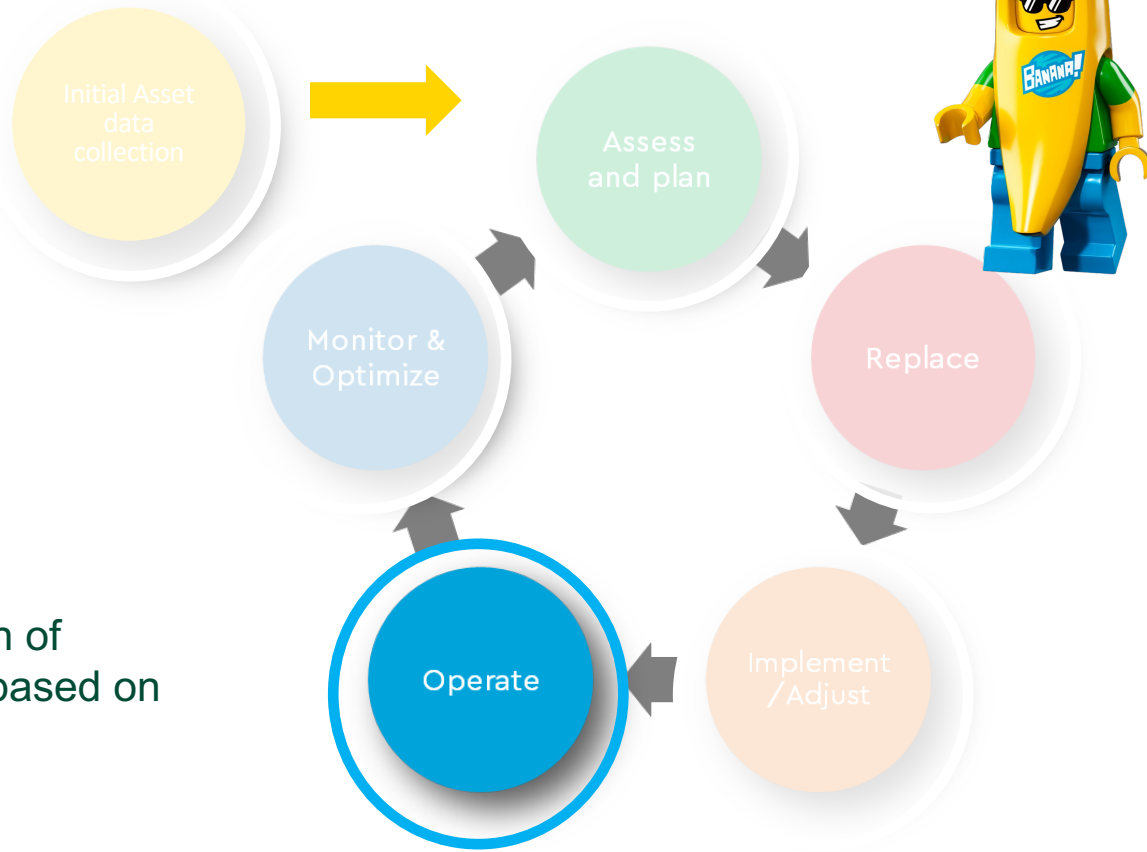
Operate



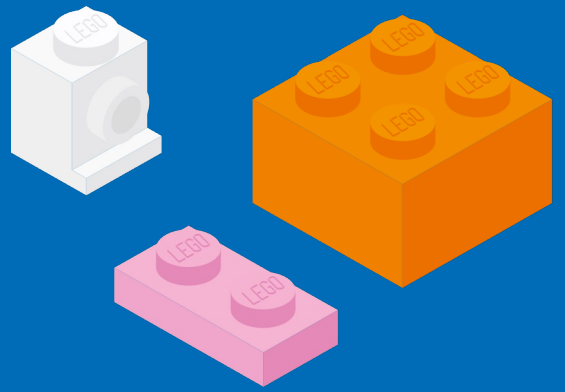
Operate

Daily operation of assets

- Maintenance according to PMs
  - Special attention to statutory maintenance
- Ad hoc repair when necessary
  - Special attention to registration of assets on ad hoc workorders based on asset criticality



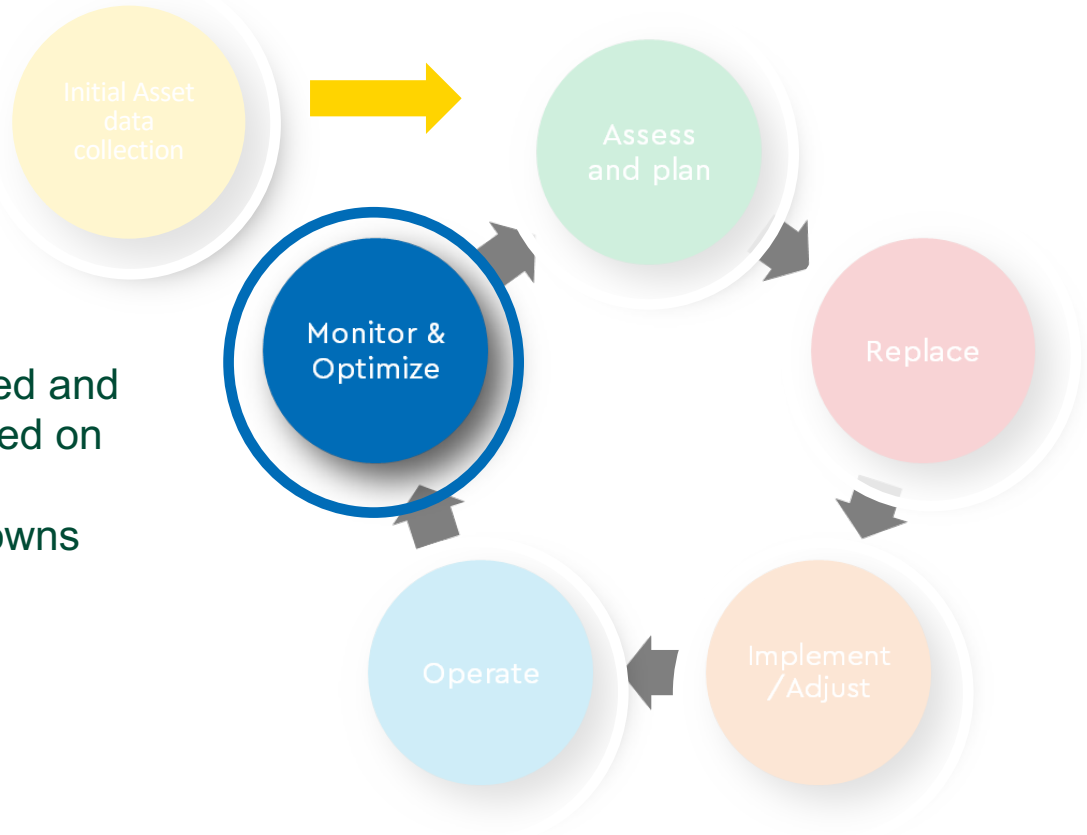
Monitor & Optimise



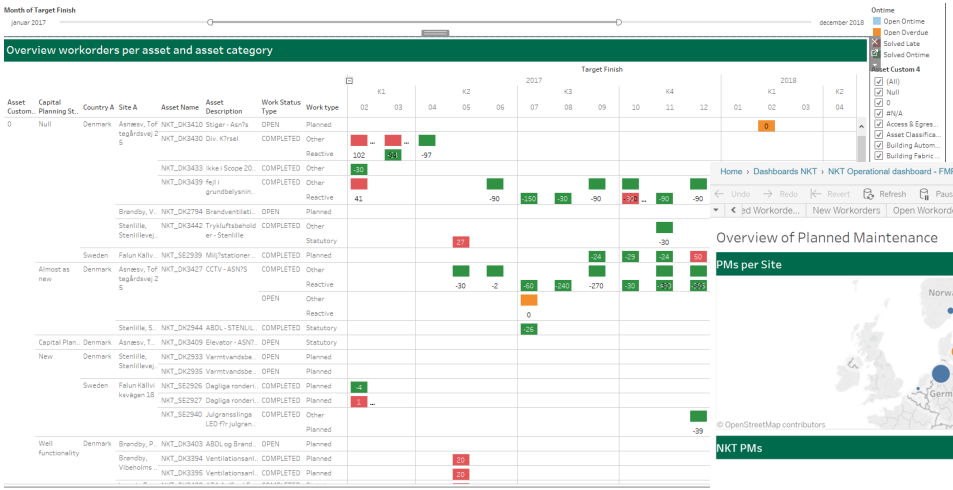
Monitor & optimize

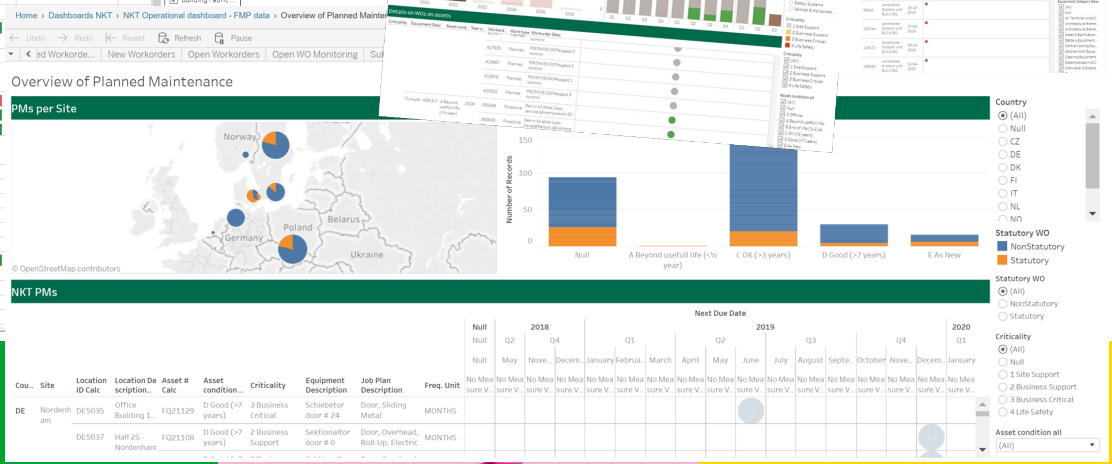
During operation assets are monitored and optimized when appropriate, i.e. based on input from

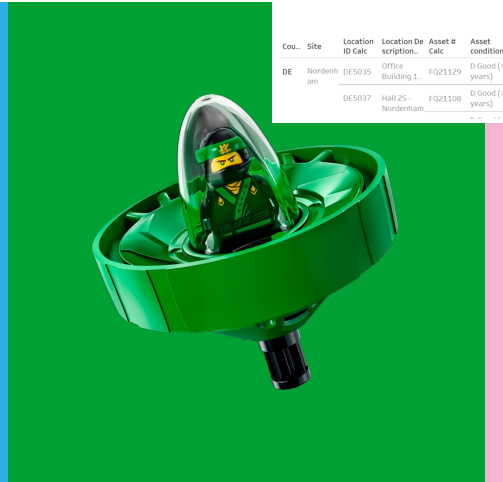
- Manuel reports on errors/breakdowns
- BMS/CTS alarms
- Sensors
- Meters
- data intelligence re weather
- other

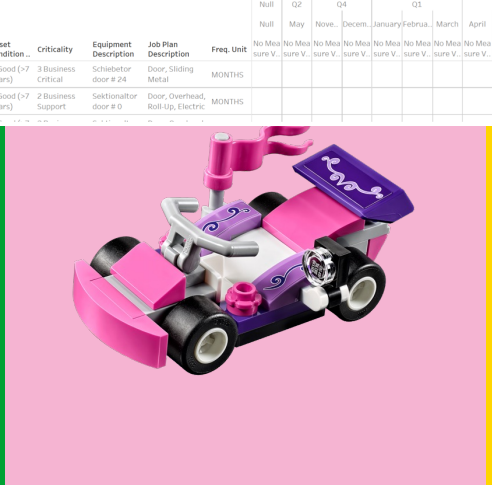


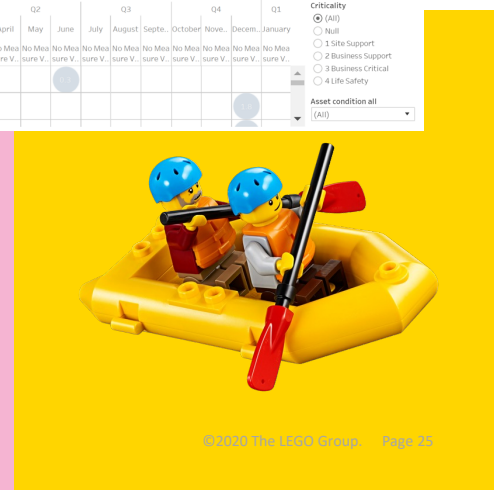
Dashboards for monitoring of assets











Spørgsmål?

Tak for i dag

