

AssetWORKS



Transport and Waste Seminar

Managing Capital Asset Planning

Performance
Networks

Nick Bridle

Senior Industry Consultant – Fleet Technology

October 2021

Agenda

Managing Capital Assets - The Fleet Managers Challenge

Asset Funding / Planning

- ⚙ Capital / Opex decisions in support of Decarbonisation plans
- ⚙ Purchasing Options - Outright Purchase, Lease, Rent ?
- ⚙ TCO - and Payback

Asset Replacements

- ⚙ ICE vs BEV vs HCV's
- ⚙ Range vs Operational requirements

Capital Asset Management Solutions

- ⚙ Life cycles
- ⚙ Replacement Planning
- ⚙ Rate Cards

AssetWorks Overview / Strategy

Nick Bridle

Volaris Group



AGRI FOOD 		ASSET MANAGEMENT 		CREATIVE INDUSTRY 	
HEALTHCARE 	COMMUNICATIONS 			CULTURAL COLLECTION MGT 	DRINKS
EDUCATION 		FINANCIAL SERVICES 		DEALER MGT 	MARINE
LIBRARY MANAGEMENT 	JUSTICE 	NON PROFIT 	PEOPLE TRANSPORT 	HUMAN RESOURCE 	RENTAL MANAGEMENT
					RETAIL

- ⚙️ 100+ offices worldwide
- ⚙️ 28 countries
- ⚙️ 119 companies
- ⚙️ 18 vertical markets



AssetWORKS

AssetWORKS

Headquartered in North America Offices World-wide

Headquarters:
Wayne, PA

Regional office:
Spokane, WA

Regional office:
Calgary, AB

Regional office:
Manchester, UK

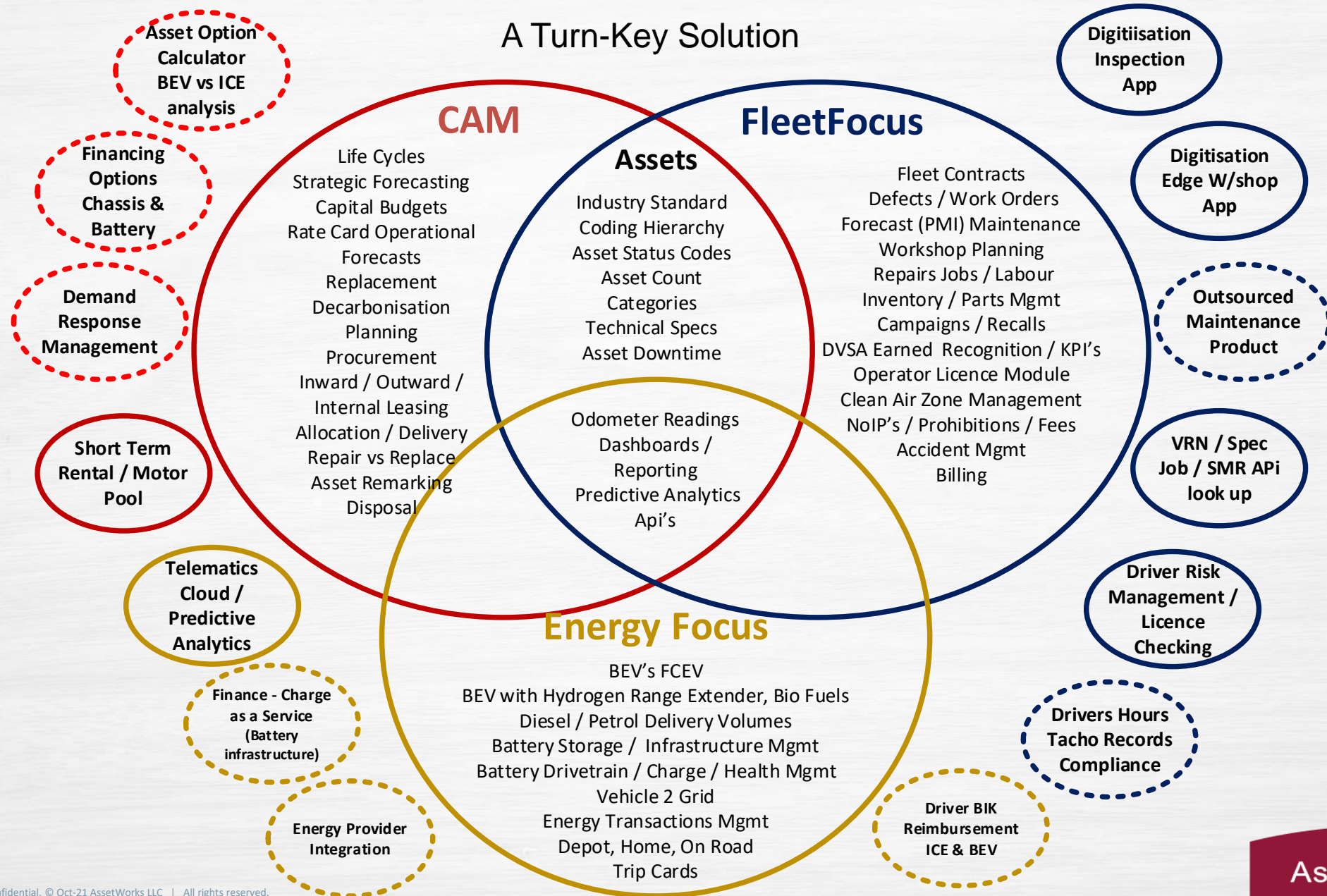


The APSE / AssetWorks Transport Partnership

- 2020 - APSE Approved Partner
- 2021 - 23 LA's using FleetMaster
- 2021/22 - 14 LA using M5
- Royal Mail - 30 Year anniversary
- Wakefield - 17 Years



AssetWorks Integration Strategy - Mobility Integration



Asset Funding / Planning

1 Electrification Strategy – Assets & Fleet

- ⚙️ Fleet Replacement – Decarbonisation Strategy
 - Category Life Cycle analysis (aligned to APSE Categories)
 - Financing CAPEX – Purchase / Lease / Rent
 - Government Incentives and Taxes
 - TCO - Maintenance Rate Cards are a key consideration for Fleet Managers
 - Extended warranties (Batteries and Assets)
- ⚙️ How do we plan for the replacement of operational (stranded) Assets ?
 - RCV's, Tippers etc. HCV's (Energy type and infrastructure build)
 - Route Analysis / Optimisation (Payload / Double shift assets / charging requirements)
 - BEV Range Analysis (on route charging requirements)
- ⚙️ Operations
 - How do we help Operational Managers & Business Drivers understand the impacts of BEV vs ICE
 - Driver Behaviour Training and Management
 - Grey Fleet Drivers – How do you get them into newer vehicles (STR)
- ⚙️ Capital Overheads - In house Workshops ?
 - Could you consolidate Field services or outsource some SMR ?
 - Opex savings - Resources - Technicians 60% less costs for parts / labour (How many do we need)
 - Repair & Emergency Services (what will be required ?)

4. Electrifying Fleet Operations – Digital Design

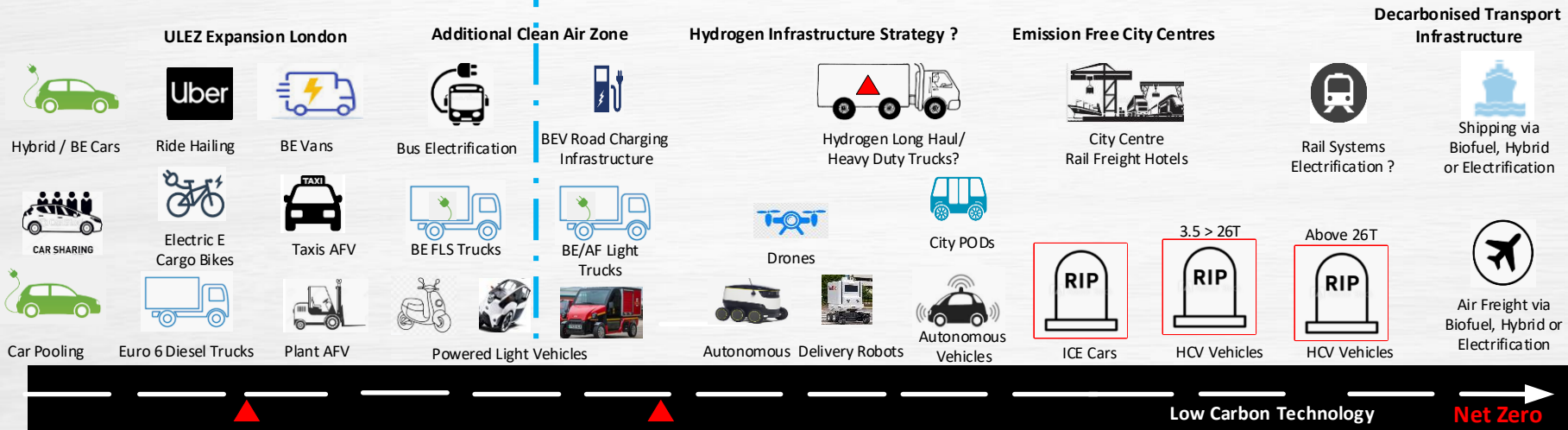
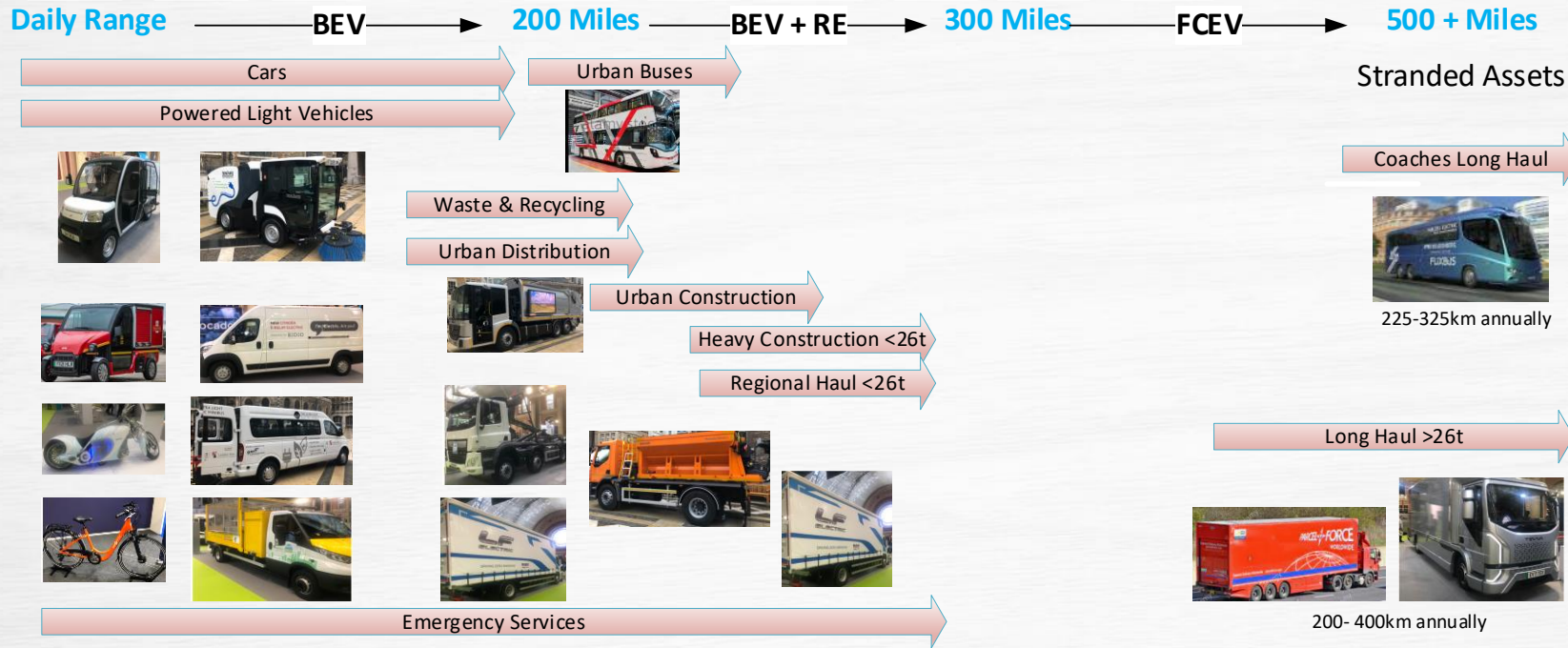
A comprehensive Technology Asset Management Solution is required:

- ⚙️ Digital Solutions & Connected Software backend
- ⚙️ **Technology** is driving Fleet **Productivity, Effectiveness & Efficiency** in support of Safety & Compliance
 - Digitalisation of Driver Daily Walk around Checks, electronic VC10 completion and self MOT (DVSA ER standards)
- ⚙️ Business intelligence – Analytics Data Reporting
 - Enhance decision making
 - Move from **“Detect & Act” to “Predict & Prevent**
- ⚙️ Software solution development required for
 - Optimisation of Depot parking bays
 - Planning / Utilisation of each bay, Charger Utilisation by power output, move asset once charged
 - Driver BIK repayment from BEV’s
 - Battery managed service maintenance plans
 - Mobility solutions developing – Travel option calculator

- ⚙️ Remember - A good Diesel OEM doesn't necessarily make a good BEV OEM !

Asset Replacement Planning (inc. Stranded Assets)

Decarbonizing Transport Operations & Electrifying Fleets



2021
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2022
 Risk
 Lithium Supply for Batteries
 Demand outstrips Supply

2025

2030

2035

2040

2050

Nick Bridle BMaaS v7Sept 21

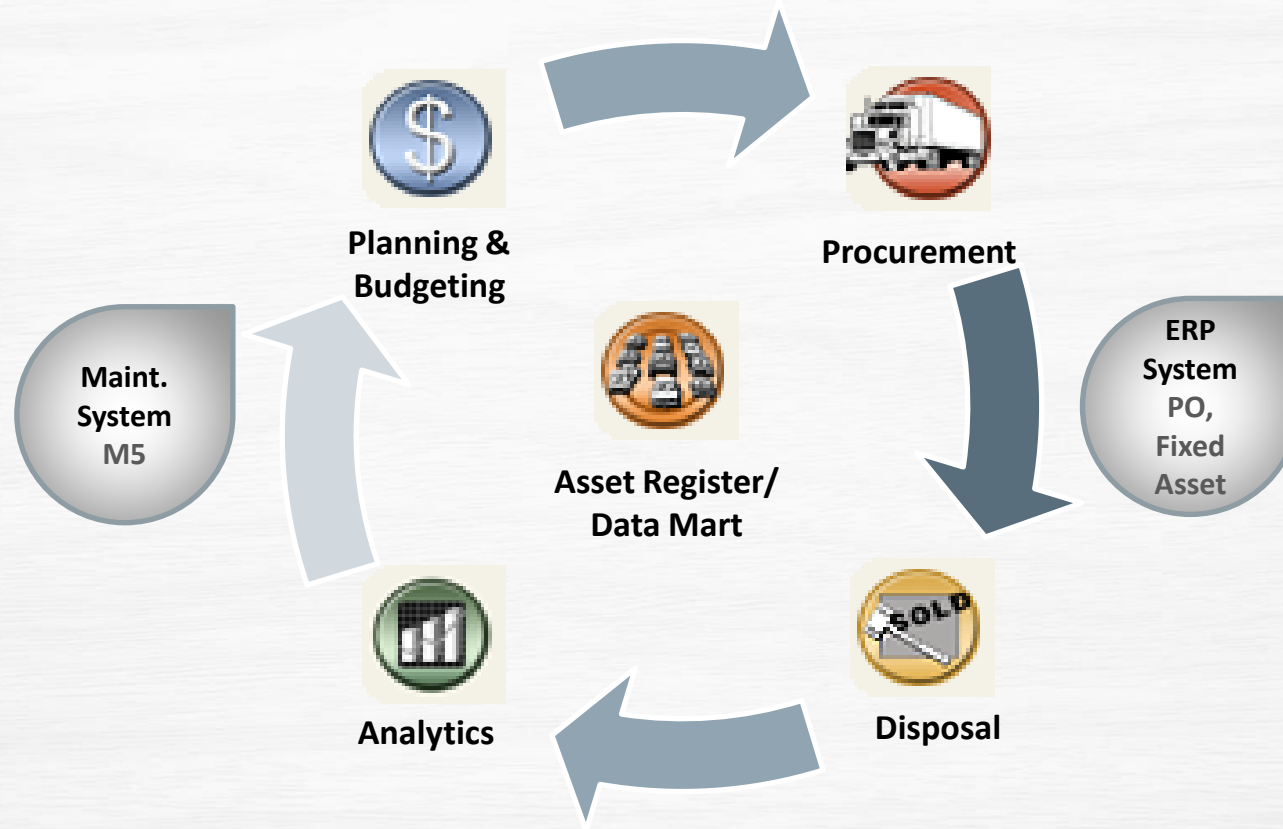


Technology Solutions

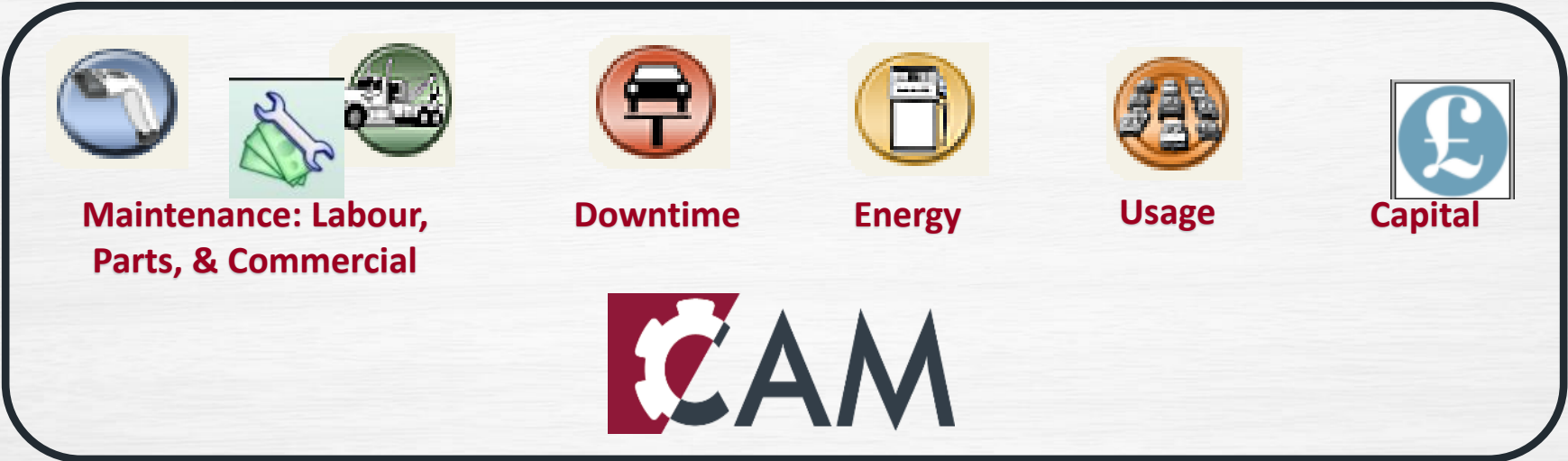
CAM Decarbonisation - Analytics and Planning Modules

CAM Concept

Manage Asset's Full Life Cycle From Plan to Disposal



CAM Data Mart



CAM can manage all types of Fleet Assets

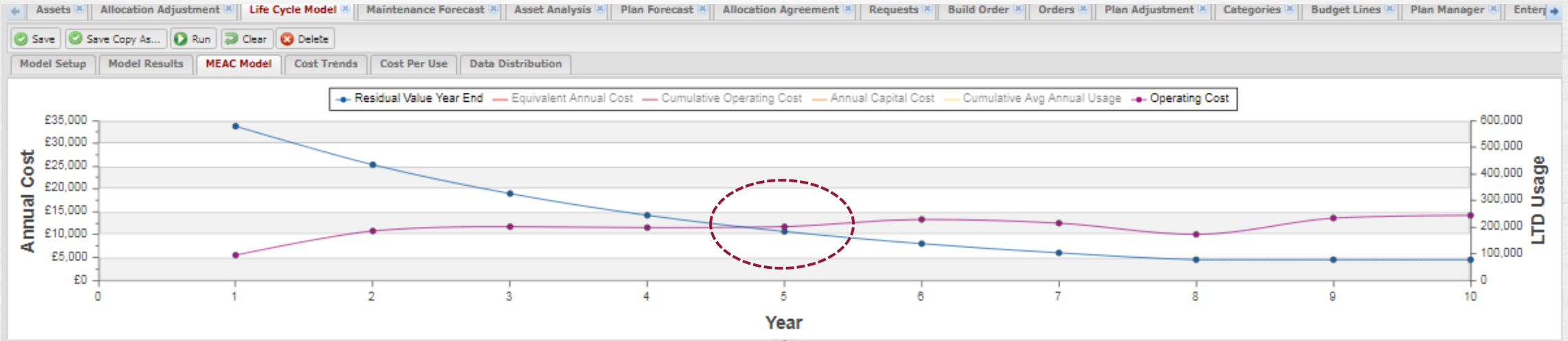
⚙️ All types of Assets can be tracked in FleetFocus and ordered in CAM



CAM Life Analytics and Life Cycle Modules

(Based on APSE Category Coding Structures)

Life Cycle Analysis – Lowest MEAC by Category



Life-Cycle Calculator

Lowest MEAC:

Lowest MEAC Year: Cumulative Utilization in MEAC Year:

Formula Input

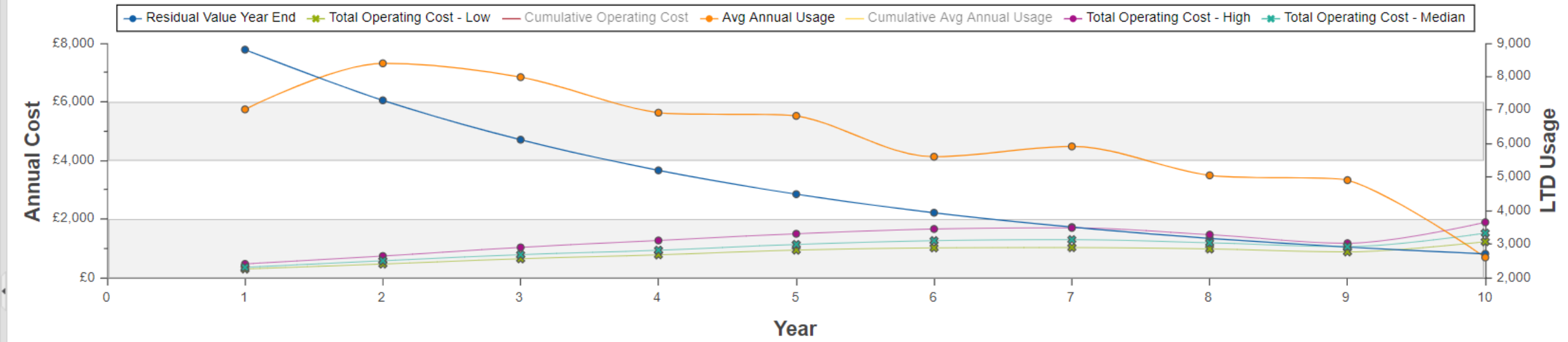
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Cumulative Avg Annual Usage	46,124	126,915	199,903	252,044	298,493	362,727	426,181	475,967	518,536	553,551
Residual Value Year End	£33,750	£25,313	£18,984	£14,238	£10,679	£8,009	£6,007	£4,505	£4,500	£4,500
Annual Capital Cost	£11,250	£8,438	£6,328	£4,746	£3,560	£2,670	£2,002	£1,502	£5	£0
Maintenance Cost	£3,558	£5,394	£6,375	£5,559	£5,917	£8,969	£9,155	£7,609	£9,417	£10,069
Downtime Cost	£0	£0	£0	£0	£0	£0	£0	£0	£0	£0
Energy Cost	£1,943	£5,403	£5,361	£5,982	£5,804	£4,355	£3,355	£2,431	£4,210	£4,138
Total Operating Cost	£5,500	£10,797	£11,736	£11,541	£11,721	£13,323	£12,510	£10,040	£13,627	£14,207
Cumulative Operating Cost	£5,500	£16,297	£28,033	£39,574	£51,294	£64,618	£77,128	£87,167	£100,794	£115,001
Cumulative Discounted Cost	£15,654	£32,455	£47,200	£59,625	£70,520	£81,177	£90,214	£96,931	£104,346	£111,568
Equivalency Factor	1.0700	0.5531	0.3811	0.2952	0.2439	0.2098	0.1856	0.1675	0.1535	0.1424
Equivalent Annual Cost	£16,750	£17,950	£17,986	£17,603	£17,199	£17,031	£16,740	£16,233	£16,016	£15,885

Life Cycle Analysis - Cost Trends

Plan Manager | Categories | Plan by Asset | Maintenance Forecast | Plan Forecast | **Life Cycle Model** | Plan Adjustment | Asset Analysis | Specifications | Category Hierarchy | Interface System of Record

Save | Save Copy As... | Run | Clear | Delete

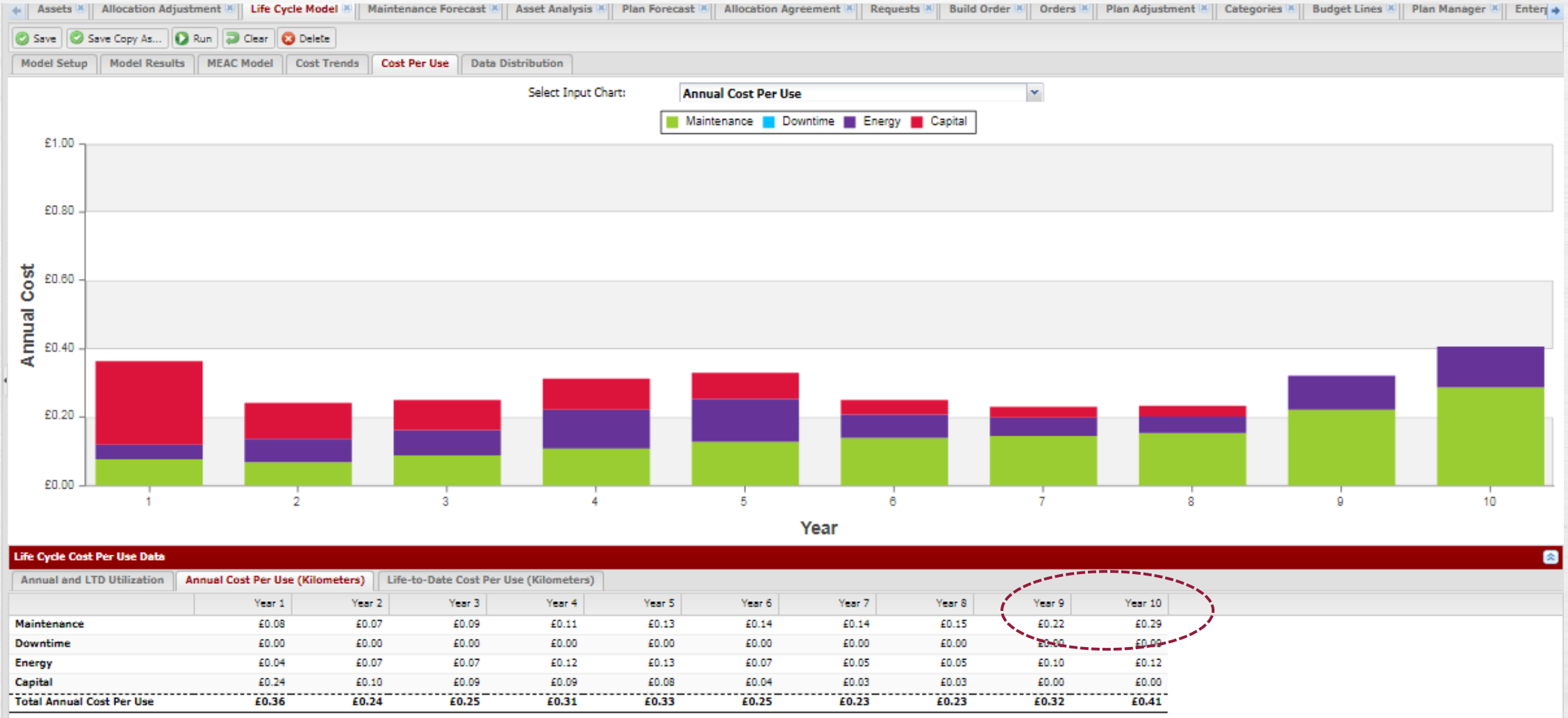
Model Setup | Model Results | MEAC Model | **Cost Trends** | Cost Per Use | Data Distribution



Cost Trend Data

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Total Utilization	235,461,677	281,160,214	265,906,681	227,225,856	220,543,870	169,877,364	173,337,893	131,419,447	98,355,447	33,596,712
Asset Count	33,527	33,479	33,302	32,820	32,296	30,285	29,298	26,011	20,034	12,915
Avg Annual Usage	7,023	8,398	7,985	6,923	6,829	5,609	5,916	5,052	4,909	2,601
Cumulative Avg Annual Usage	7,023	15,421	23,406	30,329	37,158	42,767	48,684	53,736	58,646	61,247

Life Cycle Analysis – PPM by Category



Baseline Capital Forecast Replacement Plans

Decarbonisation Opportunities



Decarbonisation Plan ICE swapped for BEV

Reviewed?	Note	Asset	Description	Using department	Location	Category	Plan category	Asset age (months)	Make request?	Score (1)	Forecast date	Plan date	Budget year	2021	2022	2023
														£334,570,245	£98,776,631	£72,561,849
<input type="checkbox"/>		WR57GZK	COMBO 1.3CDTI 16V	669019	352	CAPVDAB	CAPVEAB	160	-	100.0	May 2008	Apr 2021	2021	£40,000	£41,200	£42,436
<input type="checkbox"/>		KW18BUV	PEUGEOT PARTNER 1.2 PUR...	B01004	711	CAPVPAB	CAPVPAB	33	-	99.1	Jun 2027	Jun 2027	2027	£0	£0	£0
<input type="checkbox"/>		VV58TMZ	COMBO 1.3CDTI 16V	SC9280	928	CAPVDAB	CAPVEAB	149	-	86.1	Jul 2009	Apr 2021	2021	£40,000	£20,600	£21,218
<input type="checkbox"/>		WR57EFL	COMBO 1.3CDTI 16V	SC4810	481	CAPVDAB	CAPVEAB	161	-	82.9	Oct 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM57LKF	COMBO 1.3CDTI 16V	SC9400	940	CAPVDAB	CAPVEAB	157	-	81.9	Feb 2011	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WR57HBU	COMBO 1.3CDTI 16V	SC4500	450	CAPVDAB	CAPVEAB	160	-	81.4	Aug 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		UEZ2715	COMBO 1.3CDTI 16V	669019	712	CAPVDAB	CAPVEAB	152	-	81.3	Feb 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07RKK	COMBO 1.3CDTI 16V	SC4500	450	CAPVDAB	CAPVEAB	163	-	81.1	Apr 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		VV09UKJ	COMBO 1.3CDTI 16V	SC5870	587	CAPVDAB	CAPVEAB	143	-	80.9	Dec 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WR57ONL	COMBO 1.3CDTI 16V	H29010	106	CAPVDAB	CAPVEAB	160	-	80.8	Sep 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07RTO	COMBO 1.3CDTI 16V	SC4810	481	CAPVDAB	CAPVEAB	163	-	78.0	Nov 2013	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		VV57TSY	COMBO 1.3CDTI 16V	669019	309	CAPVDAB	CAPVEAB	161	-	77.7	Oct 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM57PCF	COMBO 1.3CDTI 16V	SC1230	106	CAPVDAB	CAPVEAB	156	-	77.4	Nov 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM08EOF	COMBO 1.3CDTI 16V	A38263	122	CAPVDAB	CAPVEAB	152	-	77.1	Feb 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07PZB	COMBO 1.3CDTI 16V	SC9260	926	CAPVDAB	CAPVEAB	163	-	76.1	Jan 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WR08NXT	COMBO 1.3CDTI 16V	A38253	122	CAPVDAB	CAPVEAB	154	-	76.1	Jan 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07PVE	COMBO 1.3CDTI 16V	SC4810	481	CAPVDAB	CAPVEAB	163	-	75.6	Oct 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		AFZ8559	COMBO 1.3CDTI 16V	SC7110	711	CAPVDAB	CAPVEAB	135	-	75.4	Dec 2013	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		PEZ5993	COMBO 1.3CDTI 16V	669019	721	CAPVDAB	CAPVEAB	160	-	75.1	Oct 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		REZ1828	COMBO 1.3CDTI 16V	SC7180	718	CAPVDAB	CAPVEAB	159	-	74.9	Feb 2014	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07PYA	COMBO 1.3CDTI 16V	SC5550	555	CAPVDAB	CAPVEAB	163	-	74.7	Jul 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WN09YJP	COMBO 1.3CDTI 16V	SC3530	353	CAPVDAB	CAPVEAB	143	-	74.3	May 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WR08UGZ	COMBO 1.3CDTI 16V	SC9800	980	CAPVDAB	CAPVEAB	154	-	74.1	May 2017	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM07YBR	COMBO 1.3CDTI 16V	SC4500	450	CAPVDAB	CAPVEAB	163	-	73.4	Aug 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM08NBB	COMBO 1.3CDTI 16V	SC5450	545	CAPVDAB	CAPVEAB	150	-	73.0	May 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		VV58RXM	COMBO 1.3CDTI 16V	669019	170	CAPVDAB	CAPVEAB	149	-	72.8	Oct 2017	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WM57KNZ	COMBO 1.3CDTI 16V	669019	S917	CAPVDAB	CAPVEAB	157	-	72.7	Feb 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		WR08NYN	COMBO 1.3CDTI 16V	SC5300	530	CAPVDAB	CAPVEAB	153	-	72.6	Jun 2015	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		LB56TZG	TRANSIT CONNECT 1.8TDCI...	669019	475	CAPVDAB	CAPVEAB	169	-	72.4	Feb 2016	Apr 2021	2021	£20,000	£0	£0
<input type="checkbox"/>		OE74930	COMBO 1.3CDTI 16V	SC7110	711	CAPVDAB	CAPVEAB	163	-	72.0	Sep 2013	Apr 2021	2021	£20,000	£0	£0

Asset Scoring: Replacement Priority

50 calculated metrics prioritizes assets

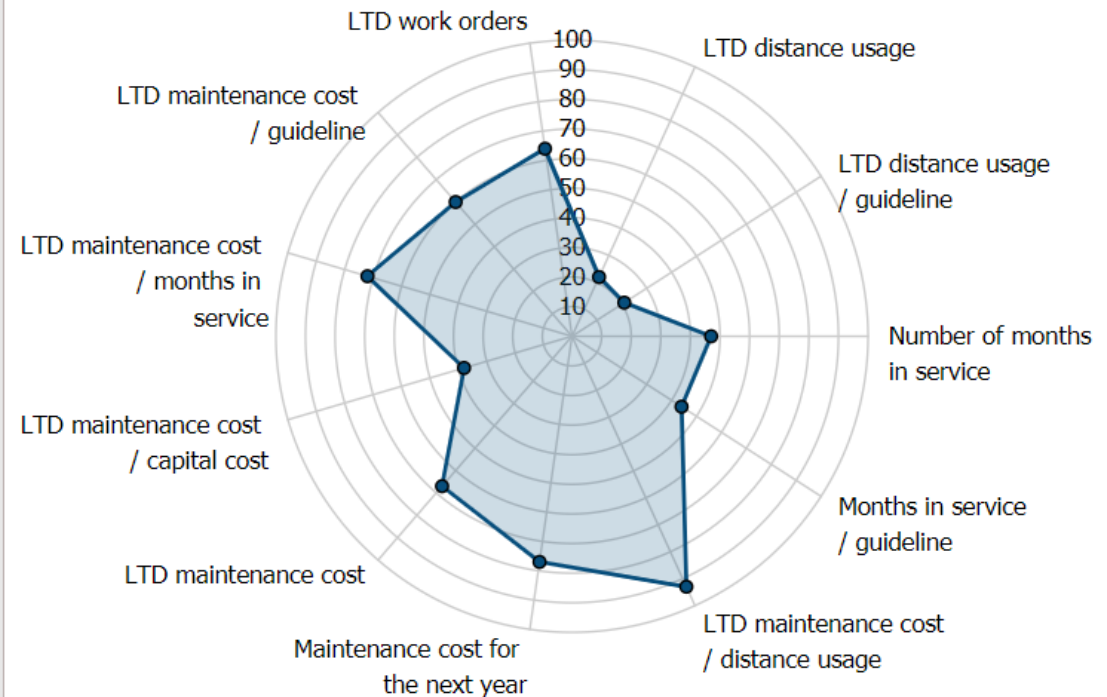
Weigh measures to meet your goals

Score against any level of the asset hierarchy

Normalized score: 0 (best) -100 (worst)

Prioritizes eligible Assets

Scoring Radar Chart



TCO Support

CAM Rate Card

ICE vs BEV CDV Forecast : Rate Card

Rate Card generates average annual costs for SMR and non-FW&T

Requests | Departments | Asset Disposal | Categories | Code Maintenance | Maintenance Forecast | System Jobs | Specifications | Plan Manager | Plan Adjustment | Plan Forecast

Print | Export | Recalculate

Model Setup

Model type: Rate Card | Category group: FLEET | Measure type: Average | Category type: LCV | Inflation adjusted cost: Yes | Category subtype: CDV | Category: CAPVDAB

Maintenance Rate Card

Values	1 Years	2 Years	3 Years	4 Years	5 Years	6 Years	7 Years	8 Years	9 Years
Sum of Target Labor	£298.86	£378.24	£521.02	£601.83	£506.47	£502.51	£507.56	£543.84	£728.64
Sum of Target Parts	£132.78	£259.08	£405.79	£468.77	£336.63	£295.54	£284.90	£344.38	£516.96
Sum of Target Commercial	£-14.59	£-51.66	£-126.26	£-16.80	£-3.19	£-2.53	£-1.82	£-3.73	£-6.85
Sum of Target	£417.06	£585.66	£800.55	£1,053.81	£839.91	£795.52	£790.64	£884.50	£1,238.75
Sum of Non-Target Labor	£62.73	£93.22	£97.96	£99.22	£72.69	£58.79	£53.60	£53.36	£70.79
Sum of Non-Target Parts	£185.81	£202.31	£174.03	£169.41	£96.34	£64.82	£49.75	£46.87	£59.76
Sum of Non-Target Commercial	£-0.33	£-0.56	£-0.30	£-0.18	£-0.02	£-0.02	£-0.01	£-0.01	£-0.02
Sum of Non-Target	£248.21	£294.98	£271.70	£268.45	£169.01	£123.59	£103.35	£100.22	£130.53
Sum of Target and Non-Target	£665.26	£880.63	£1,072.25	£1,322.26	£1,008.92	£919.11	£893.99	£984.72	£1,369.28
Sum of Target Labor Hours	5.98	7.56	10.42	12.04	10.13	10.05	10.15	10.88	14.57
Sum of Non-Target Labor Hours	1.25	1.86	1.96	1.98	1.45	1.18	1.07	1.07	1.42
Sum of Target and Non-Target Labor Hours	7.23	9.43	12.38	14.02	11.58	11.23	11.22	11.94	15.99

Orders | Plan Manager | Categories | Plan Adjustment | Plan by Asset | Maintenance Forecast | Vendors | Asset Analysis | Enterp

Print | Export | Recalculate

Model Setup

Model type: Rate Card | Category group: FLEET | Measure type: Average | Category type: LCV | Inflation adjusted cost: Yes | Category subtype: CDV | Category: CAPVEAB

Maintenance Rate Card

Values	1 Years	2 Years	3 Years	4 Years
Sum of Target Labor	£69.32	£87.17	£139.56	£3.15
Sum of Target Parts	£10.52	£45.00	£68.34	£0.00
Sum of Target Commercial	£-4.89	£-9.93	£-1.20	£0.00
Sum of Target	£74.94	£122.24	£206.70	£3.15
Sum of Non-Target Labor	£35.20	£38.27	£38.85	£2.64
Sum of Non-Target Parts	£70.19	£190.84	£108.34	£11.34
Sum of Non-Target Commercial	£0.20	£0.07	£0.00	£0.00
Sum of Non-Target	£105.59	£229.19	£147.19	£13.98
Sum of Target and Non-Target	£180.53	£351.43	£353.89	£17.13
Sum of Target Labor Hours	2.97	3.73	5.98	0.13
Sum of Non-Target Labor Hours	1.51	1.64	1.66	0.11
Sum of Target and Non-Target Labor Hours	4.48	5.37	7.64	0.25

Instantly model maintenance cost and labor hours for any category of assets

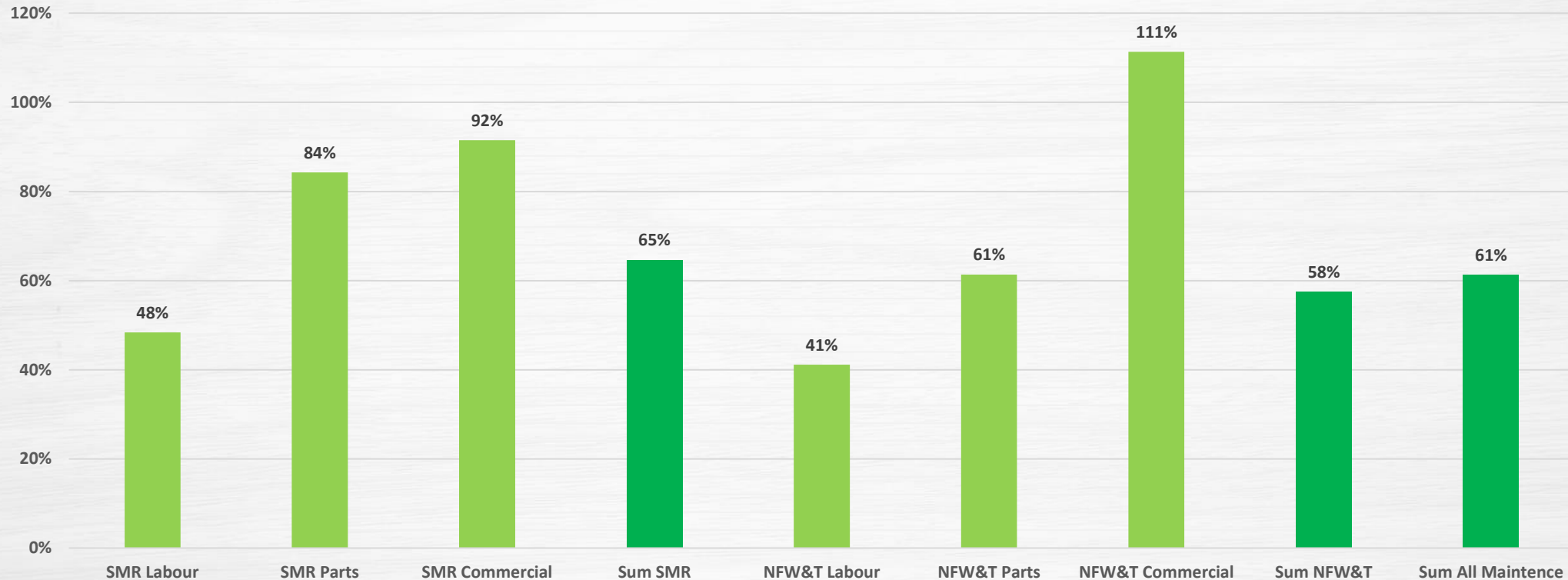
Costs separated into SMR and non-FW&T buckets, broken out for labour, parts and commercial costs

Use to generate rental or internal lease charge-back rates

Using Life-Cycle Data to Compare Costs

ICE vs BEV Comparison

BEV Maintenance Costs & Labour Hours % Reductions Combined Years 1-3



Analysis based on three-years of data

- 100 LCV Assets in services from May 2018
- 60 LCV Assets in service from November 2019

Current analysis BEV benefits are increasing Year on Year

Next Actions

APSE / AssetWorks

Suggested Next Steps

Utilize CAM to support APSE needs

- ⚙️ Could we run a national APSE Transport Decarbonisation Plan ?
- ⚙️ Locally - Do you have appointed Planning champions in your Fleet structure ?
 - Identify and run a Decarbonisation and sustainability initiative
 - Run Asset Plan Forecast out to 2022-2030
 - Run Life cycle analysis by category
 - MEAC, PPM analysis,
 - Review Operational Data such as Downtime & Fuel
 - Enterprise & Interest rates
 - Review Vehicles Categories in plan
 - Run Rate Card / Maintenance forecast - Analyse
 - Run several plan scenarios based on Asset Category / Type
 - Identify Capital, Maintenance and Co2/NOx Impacts
 - Presents TCO solutions

Questions?