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PREPARED FOR

AECC

ASSOCIATION FOR EMISSIONS
CONTROL BY CATALYST



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A 3D rendering of a semi-truck chassis shown in a transparent, wireframe style. The engine is highlighted in a solid red color, positioned in the front of the engine compartment. The truck is shown from a front-three-quarter view, including the front grille, headlights, and the rear axle with wheels.

EATS COST ANALYSIS

P55218 LOW EXHAUST EMISSION HD DEMONSTRATOR

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 - Considered ranges
 - Assumed system Specifications
- EATS COSTS + BREAKDOWN
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P55218 Heavy Duty Demonstrator Cost Analysis



SOURCES AND ASSUMPTIONS

- EATS volumes:
 - Costs are calculated assuming a constant number of systems sold/year for both variants.
 - Baseline Daimler system: EATS from base truck + assumptions on catalyst specifications based on FEV expertise
 - AECC system: EATS volumes as provided by AECC and members + catalyst specifications based on FEV expertise
- Substrates and coatings
 - Specifications as per industry benchmark/ FEV database
 - [ICCT LDVcostsreport 2012.pdf \(theicct.org\)](#) and adaptations based on product longevity and cost down projections
- Costs of PGM materials
 - [Platinum Price 2020 \[Updated Daily\] - Metalary](#)
- Currency exchange rate:
 - [U.S. Dollar to Euro Exchange rate history: 08 December 2020 \(08/12/2020\) \(poundsterlinglive.com\)](#)

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FURTHER ASSUMPTIONS

- Costs are just considering hardware costs, tooling, development and industrialization are not included
- Costs are based on available databases and assumptions

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EATS ASSUMPTIONS: RANGES CONSIDERED BASED ON FEV EXPERIENCE

BASE DAIMLER SYSTEM: FEV ASSUMPTION

Catalyst	Max	Min
DOC ¹	30g/ft ³ (5:4:0)	25g/ft ³ (5:4:0)
DPF ¹	5g/ft ³ (2:1:0)	2g/ft ³ (2:1:0)
SCR ²	Coating @14€/L	Coating @8€/L
ASC ^{1,2}	5g/ft ³ (1:0:0)	1g/ft ³ (1:0:0)

¹ PGM assumed main cost when applicable

² Batching and prep of Zeolite material main cost for SCR

AECC SYSTEM: FEV ASSUMPTION

Catalyst	Max	Min
DOC ¹	25g/ft ³ (5:4:0)	20g/ft ³ (2:1:0)
SCR ²	Coating @14€/L	Coating @8€/L
ASC ^{1,2}	5g/ft ³ (1:0:0)	1g/ft ³ (1:0:0)
DOC ¹	25g/ft ³ (5:4:0)	20g/ft ³ (5:4:0)
DPF ¹	5g/ft ³ (2:1:0)	2g/ft ³ (2:1:0)
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EATS COSTS AND COSTS BREAKDOWN: FEV ASSUMPTION OF AECC SYSTEM

CLOSE COUPLED SYSTEM

Cat	Max	Min
DOC	334,69 €	260,30 €
SCR	446,25 €	318,75 €
ASC	106,76 €	93,26 €
DOC	343,99 €	290,81 €
DPF	432,66 €	426,58 €
SCR	446,25 €	318,75 €
ASC	106,76 €	93,26 €
Full EATS	2.217,35 €	1.801,71 €

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EATS COSTS AND COSTS BREAKDOWN: COMPARISON TO BASELINE

BASE DAIMLER SYSTEM: FEV ASSUMPTION

	Max	Min
DOC	611,84 €	529,92 €
DPF	521,63 €	435,62 €
SCR	447,30 €	319,50 €
ASC	220,95 €	155,80 €
Full EATS	1.801,72 €	1.440,85 €

DELTA COSTS: FEV ASSUMPTION

	Max	Min
AECC system EATS	2.217,35 €	1.801,71 €
Baseline EATS	1.801,72 €	1.440,85 €
Delta Cost Range	415,62 €	360,86 €

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CONCLUSIONS

- FEV conducted an EATS cost breakdown analysis for both an FEV assumed EURO VI-d Daimler baseline system and the assumed AECC demonstrator system. Both are assumed based on FEV experience.
- Assumptions for currency exchange rates and PGM prices were taken based on the values for the 5th of January 2021.
- There was an approximate on cost of 23-25% range calculated for the assumed AECC system relative to the assumed baseline system – approximately €360-415, based on the estimated cost ranges.