

# HJS Emission Technology

## Replacement DPF for Independent Aftermarket

INNOVATION RIGHT  
FROM THE START



HJS provides comprehensive emission solutions for integrated powertrain concepts based on 40 years of experience.

**VERT NPTI Focus Event**  
**July 7<sup>th</sup> 2021**

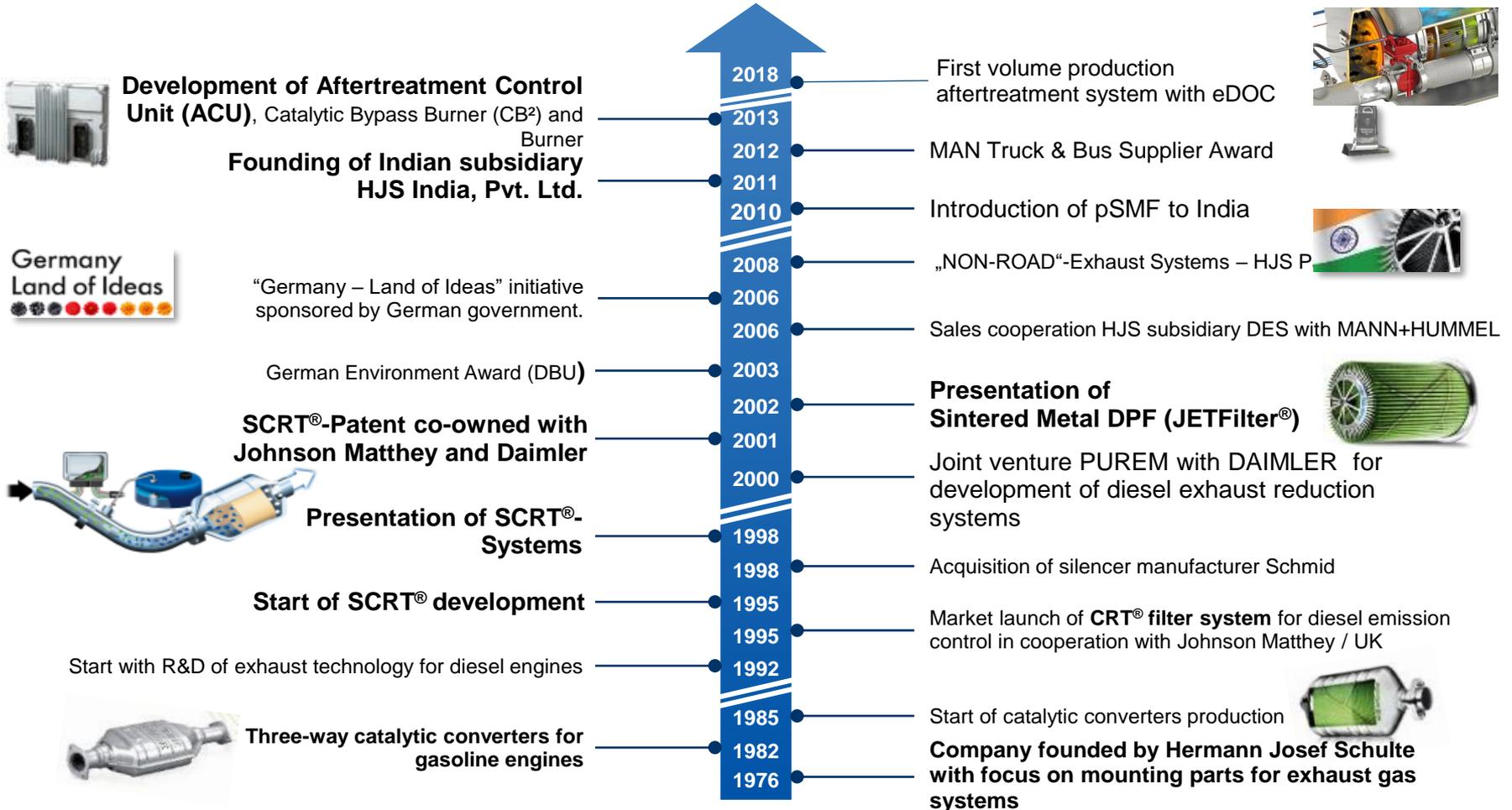
*Think about tomorrow.*



# Content

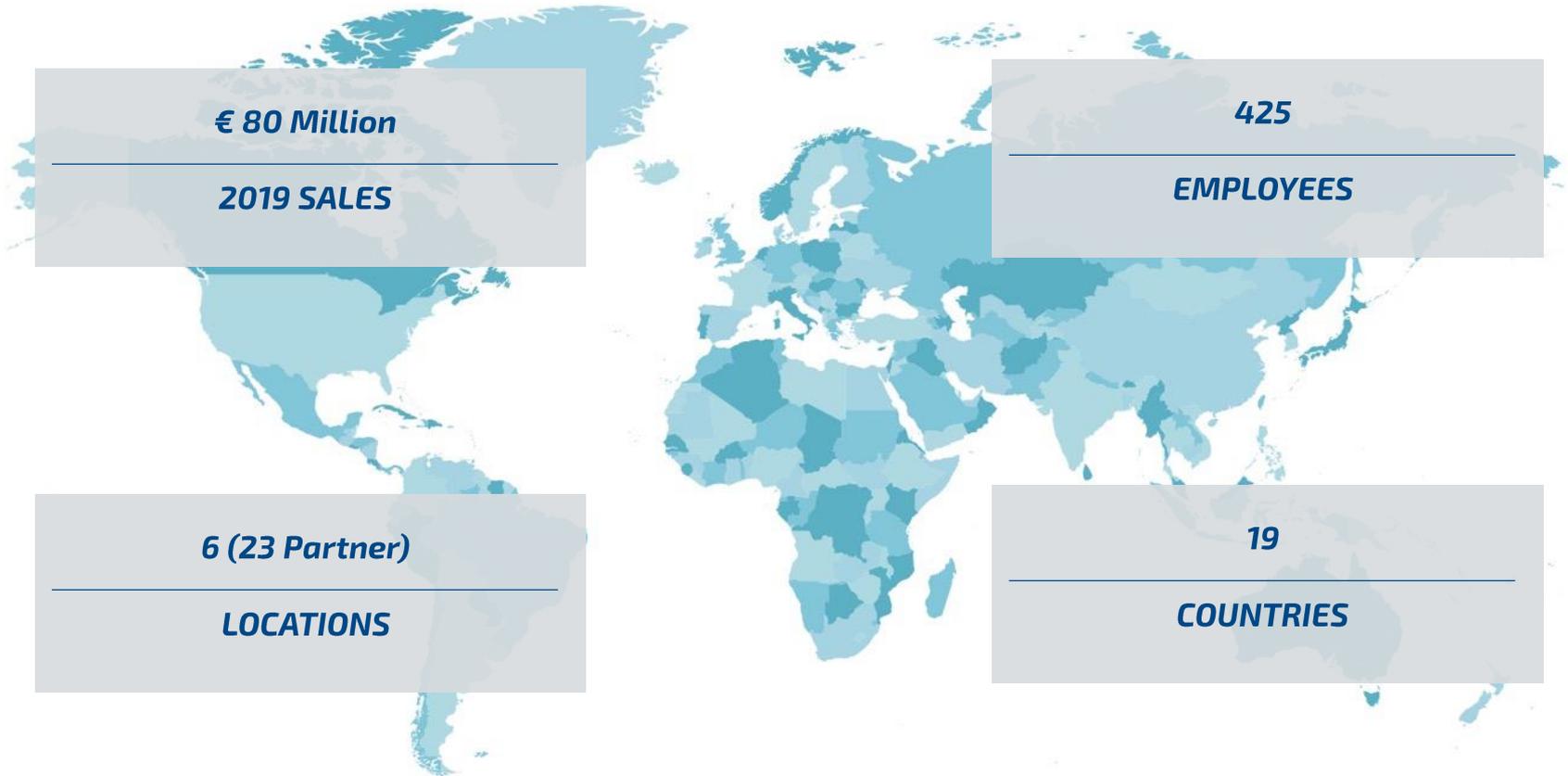
- Brief Company Introduction
- HJS OEM References
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- HJS Replacement DPF Program
- DPF Supply Chain / Summary

# HJS Milestones



>> HJS – Experienced partner for exhaust gas treatment technology

# HJS Overview

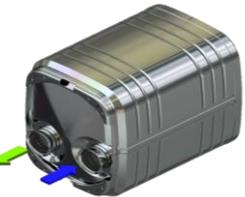


# HJS References OEM

## Mercedes-Benz MDEG 936 NGT EURO VI



- Since 2004 Series Supplier for EURO V NGT BR900
- Since 2015 Series Supplier EURO VI MDEG NGT
- Mercedes Benz Split Cat-Layout high performance by engine mounted catalyst
- Validation, Emission Performance



## MAN Truck & Bus DPF

- HJS supplying since 2001 Systems and SMF® modules to MAN
- Series Supplies > 10,000 CSMF® -Systeme since 2006 for Euro V/EEV
- Series Supplies CSMF® -Module for Euro VI



## Volkswagen Industrial Powertrain

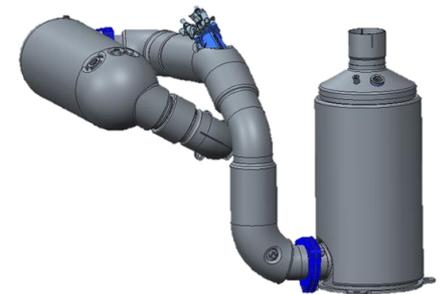


- VW IM 444/445MD
- Engine Mounted CSMF® -
- Ash Cleaning Interval >7,000h



## BS Trem IV for mech. DI-Diesel-Engine

- 4- and 6-Cylinder Diesel mech. injection with electric governor
- Partial Flow pSMF®(DPF) mit  $\eta > 60\%$
- Airless SCR-System
- Agriculture Application



# HJS Business Units

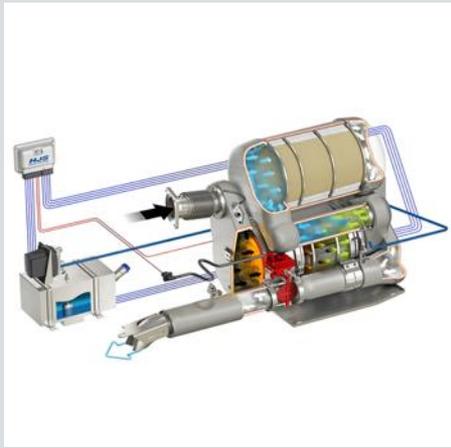
**OEM**



**MOTORSPORT**



**RETROFIT**



**AFTERMARKET**



# HJS Aftermarket (IAM) Products

## - Product Overview

- Catalysts

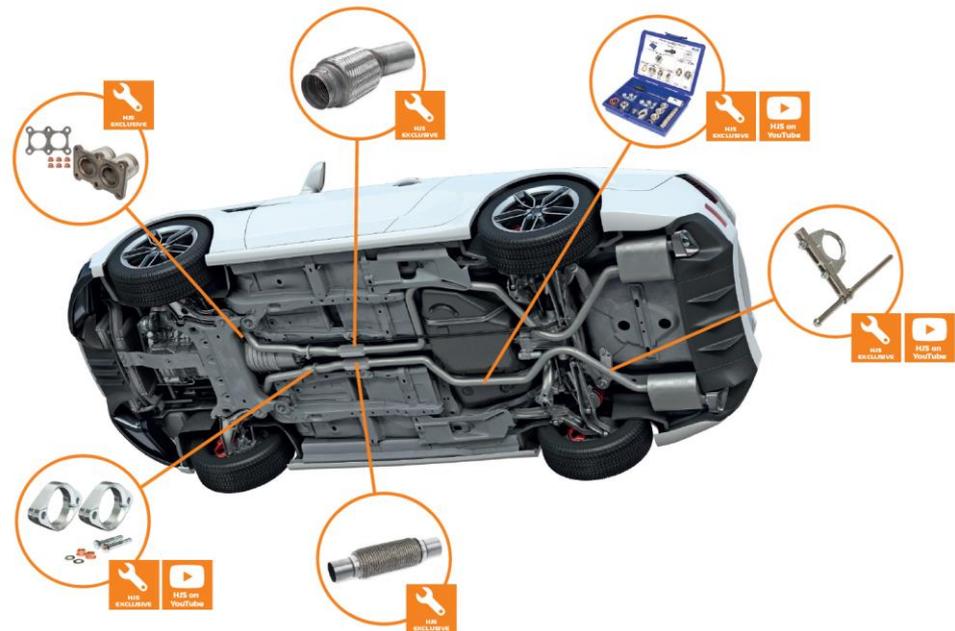


- HJS Cityfilter® (pSMF®)



- Replacement DPFs

## Universal Spare Parts & Repair Solutions



# Replacement DPFs for independent Aftermarket (IAM)

## - Homologation

Homologation according

- ECE R 059 (replacement silencers) and
- Determination of the ki-factor for the evaluation of emissions w/o DPF regeneration
- ECE R 103 (replacement pollution control devices)

Messungen nach ECE-Regelung 103 für die Fahrkurve Typ I (ECE-R 83) Test according to ECE-Regulation 103 for the test type I (ECE-R 83)														Bewertung / Assesm.	
Schadstoffkomponenten  Pollutant components	EURO 4		Serienpartikelfilter Original particulate filter						Austauschpartikelfilter replacement particulate filter						M <sub>≤</sub> G und M <sub>≤</sub> 0,85S+0,4G
	Grenzwerte <sup>1)</sup> Limit values		Messung Test			Mittelwert mean val.			Messung Test			Mittelwert mean val.			Bewertungsfaktor / Assesm. factor 0,85S+0,4G
		G <sup>1)</sup>	1	2	3	Si	ki	S	1	2	3	Mi	ki	M	
CO (g/km)	0,5	0,46*)	0,117	0,112	0,092	0,107	1,75	0,187	0,171	0,071	0,155	0,132	1,16	0,153	0,359 (M < G)
NO <sub>x</sub> (g/km)	0,25	0,25)*	0,243	0,236	0,224	0,234	1,00	0,234	0,244	0,250	0,249	0,248	0,97	0,241	0,299 (M < G)
HC+NO <sub>x</sub> (g/km)	0,3	0,3)*	0,269	0,264	0,253	0,262	1,00	0,262	0,276	0,271	0,272	0,273	1,00	0,273	0,343 (M < G)
Partikel (g/km)	0,025	0,021*)	0,0031	0,0021	0,0032	0,0028	1,49	0,0042	0,0023	0,0018	0,0010	0,0017	0,98	0,0017	0,0136 (M < G)

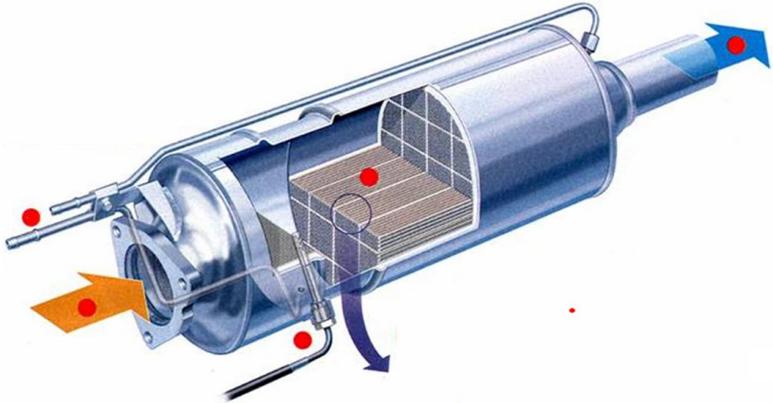
\*) incl. Verschlechterungsfaktor aus Punkt 5.4, ECE R-83

**Homologation passed with comparable or better results than the OE part used for comparison.**

# Replacement DPFs for independent Aftermarket (IAM)

## - Technology

Design of Replacement DPF according OE Design



OE – DPF



**HJS** Replacement DPF

Validation at HJS as during the German DPF Retrofit campaign 2006 - 2016

Depending on boundary conditions of application

- Cordierite- or SiC-DPF
- Coated or uncoated DPF

# Replacement DPFs for independent Aftermarket (IAM)

## - Examples



VW T5 Transporter/Multivan



VW PC 1.6 / 2.0 TDI



PSA 1.6 HDI



Ford TDCI 2.0

# Replacement DPFs for independent Aftermarket (IAM)

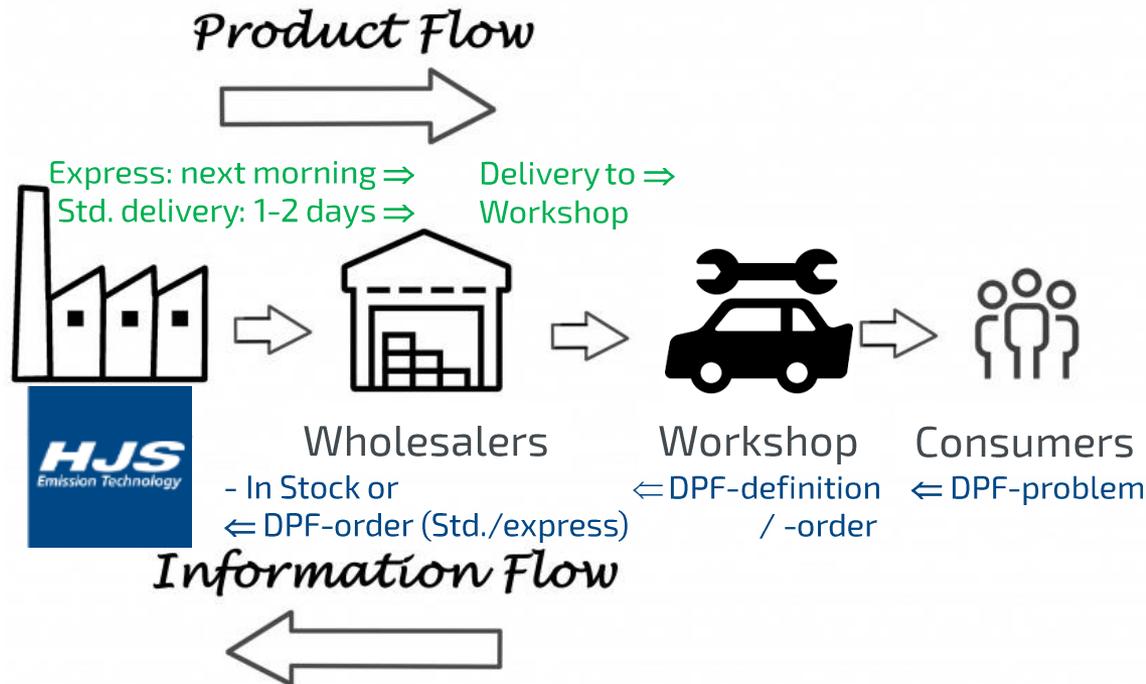
## - Product Portfolio PC / LCV (EU 4 and 5)

Most DPFs available as Cordierite- or SiC-DPF, coating according OE-version

Make	Type	No. DPFs	Model Year
<b>Audi</b>	A3, A4, A6	35	2007 - 2013
<b>BMW</b>	3er, 5er, 7er, X3, X5	49	2005 - 2013
<b>Citroen</b>	Berlingo, C3, C4, C5, C8, DS3, DS4, DS5, Jumpy, Xsara	117	2001 - 2016
<b>Fiat</b>	Scudo	6	2006 ff.
<b>Ford</b>	B-Max, C-Max, Fiesta, Focus, Galaxy, Grand-C-Max, Mondeo, Transit, S-Max	230	2003 - 2015
<b>Iveco</b>	Daily	28	2011 - 2016
<b>Mazda</b>	3	6	2004 - 2015
<b>Mercedes</b>	Mixto, Sprinter, Viano, Vito	111	2005 - 2016
<b>Mini</b>		6	2006 - 2010
<b>Mitsubishi</b>	Outlander	1	2007 - 2012
<b>Peugeot</b>	206, 207, 208, 307, 308, 407, 508, 807, 1007, 2008, 3008, 4007, 5008, Expert, RCZ	153	1999 - 2018
<b>Seat</b>	Altea, Leon, Toledo	13	2004 - 2012
<b>Skoda</b>	Qctaavia, Superb, Yeti	11	2004 - 2017
<b>Volvo</b>	C30, C70, S40, S60, S80, V40, V50, V60, V70	20	2004 - 2015
<b>VW</b>	Caddy, Crafter, Golf, Eos, Jetta, Multivan, Passat, Scirocco, Transporter, Touran	86	2005 - 2017

# Replacement DPFs for independent Aftermarket (IAM)

## - Supply Chain / Summary



## Summary

- Replacement DPFs in near-OE quality are available for most vehicles
- If the examination (nPTI) shows that a DPF replacement is necessary, the required spare part can be ordered directly.
- Rapid supply of DPFs parts is easily possible via the supply chain, which is tried and tested in the aftermarket



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