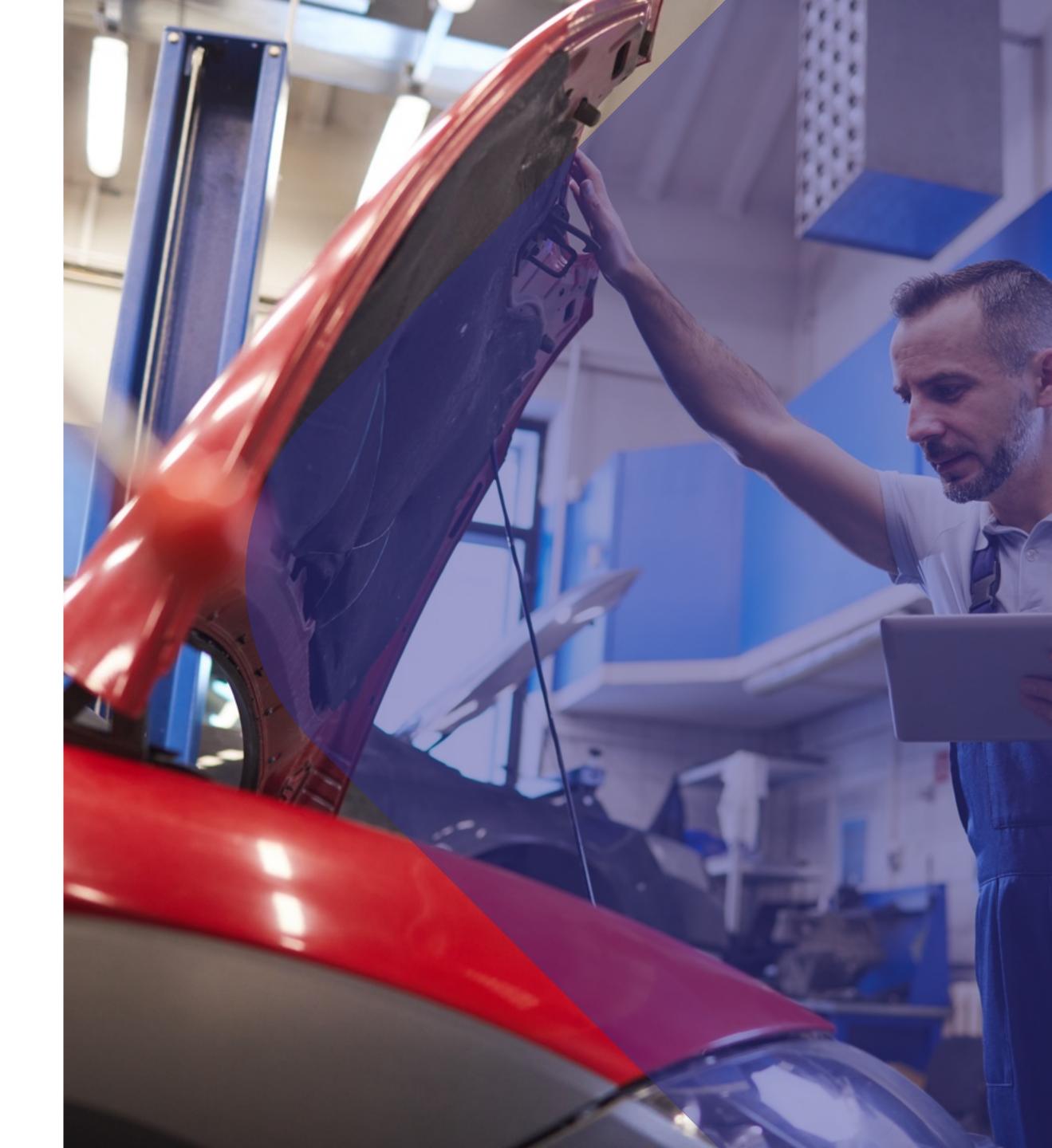


Data and AI for the Automotive



WESP

We Support Performance



WESP connects the entire automotive value chain — from manufacturers to workshops.

We drive collaboration, enable data-driven decisions, and strengthen loyalty through insight and transparency — creating value and powering workshop digitalization across the network.

We provide benchmark dashboards, fact-based consultancy and data-driven insights for the automotive aftermarket. WESP developed software applications to collect, clean, standardize and enrich retail market data for the aftermarket.

Our business intelligence tools transform heterogeneous retail data into standardized information to provide business insights, benchmarks and data driven decision making.

We serve:

- Independent and authorized workshops
- Workshop networks
- GMS Applications
- Parts manufacturers
- Wholesale & parts distributors

Why:

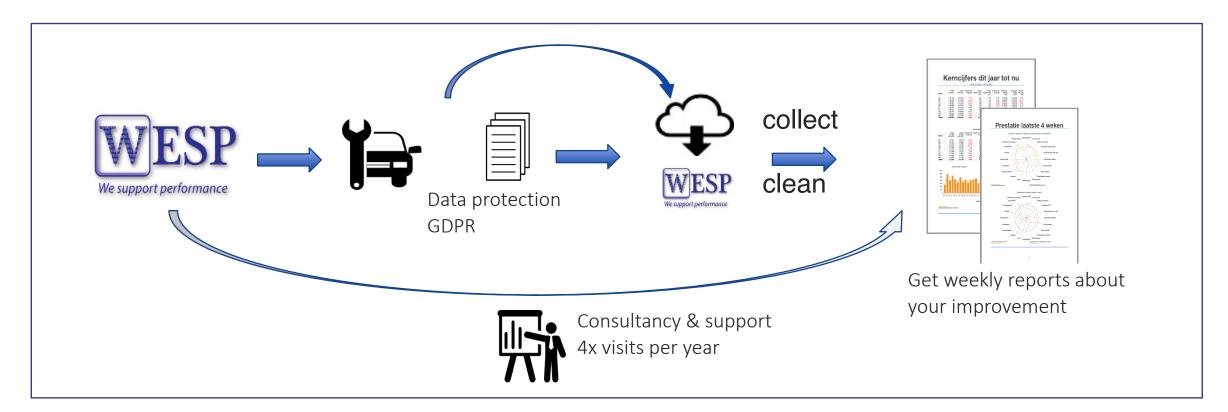
'We believe in data driven decision-making'

How:

'We support the aftermarket by transforming retail data into standardized information'



Workshop Performance Dashboard (WPD)

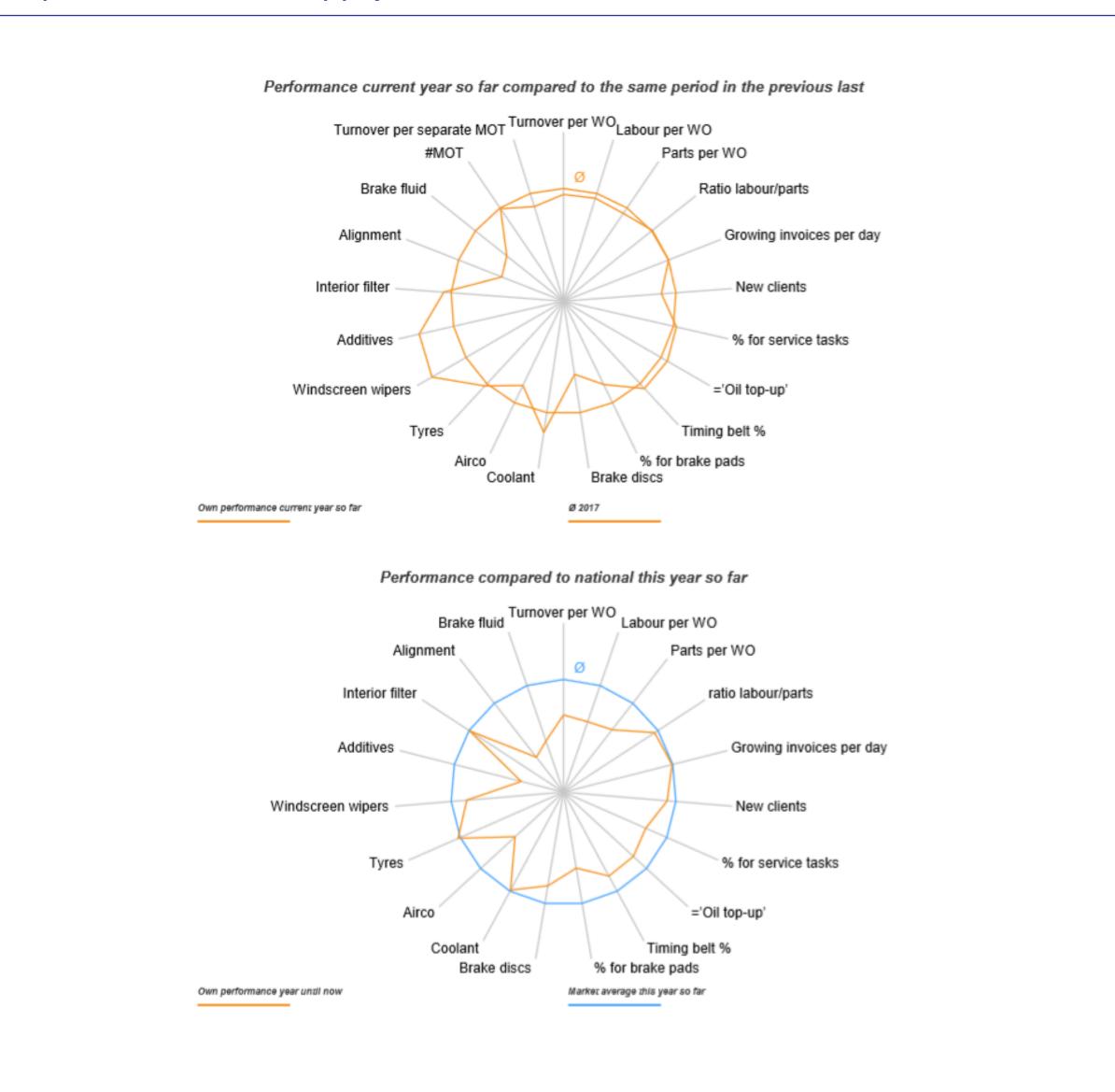


No nonsense steering tool for the workshop:



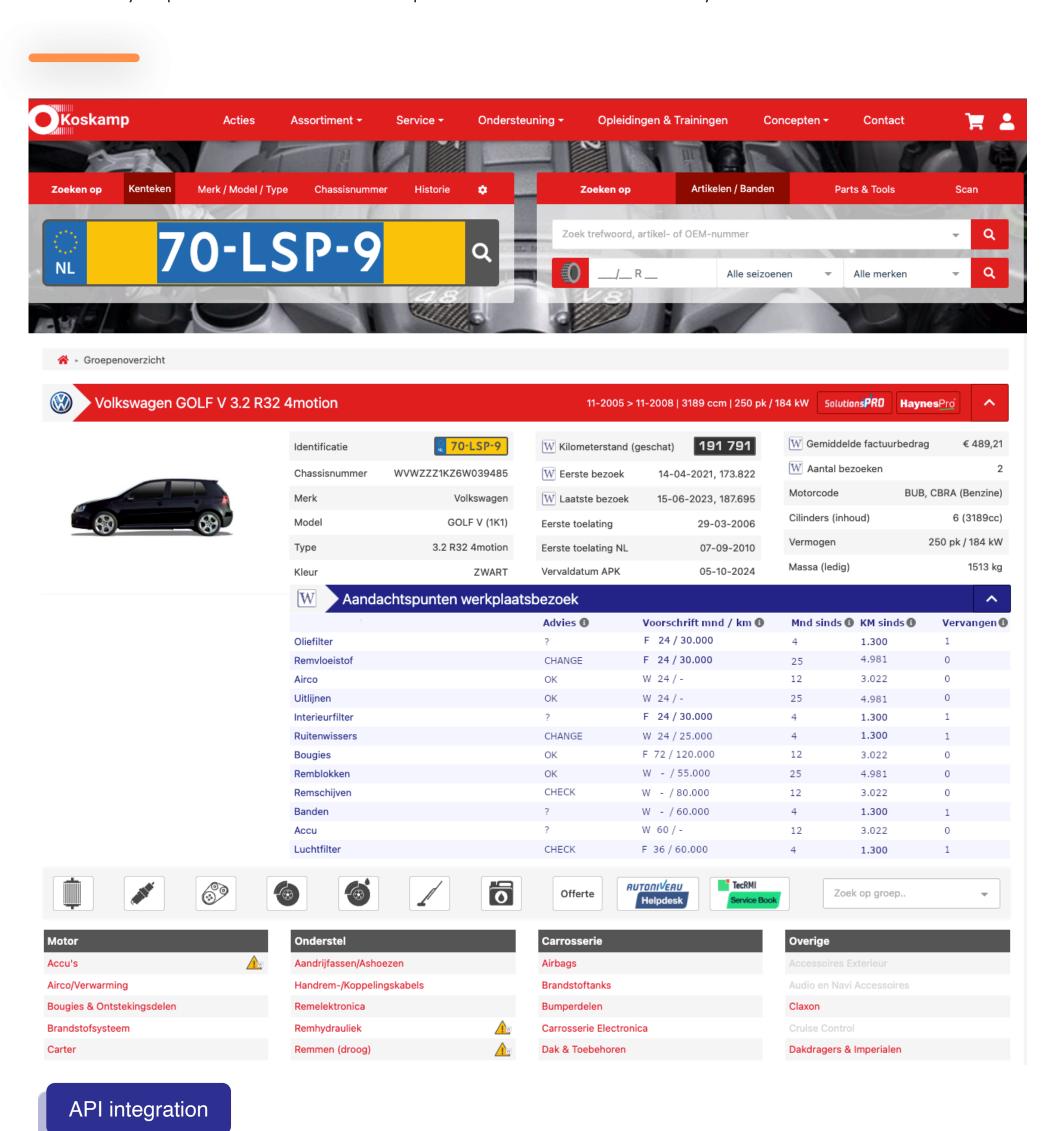
- Dynamic benchmark (car make, region, franchise, etc)
- Fact based consultancy to bring focus and optimize performance
- Proven concept; over 1500 workshops enlisted in NL / DE / BE
- Independent from DMS system & immediate history onboard
- No need to change workshop process

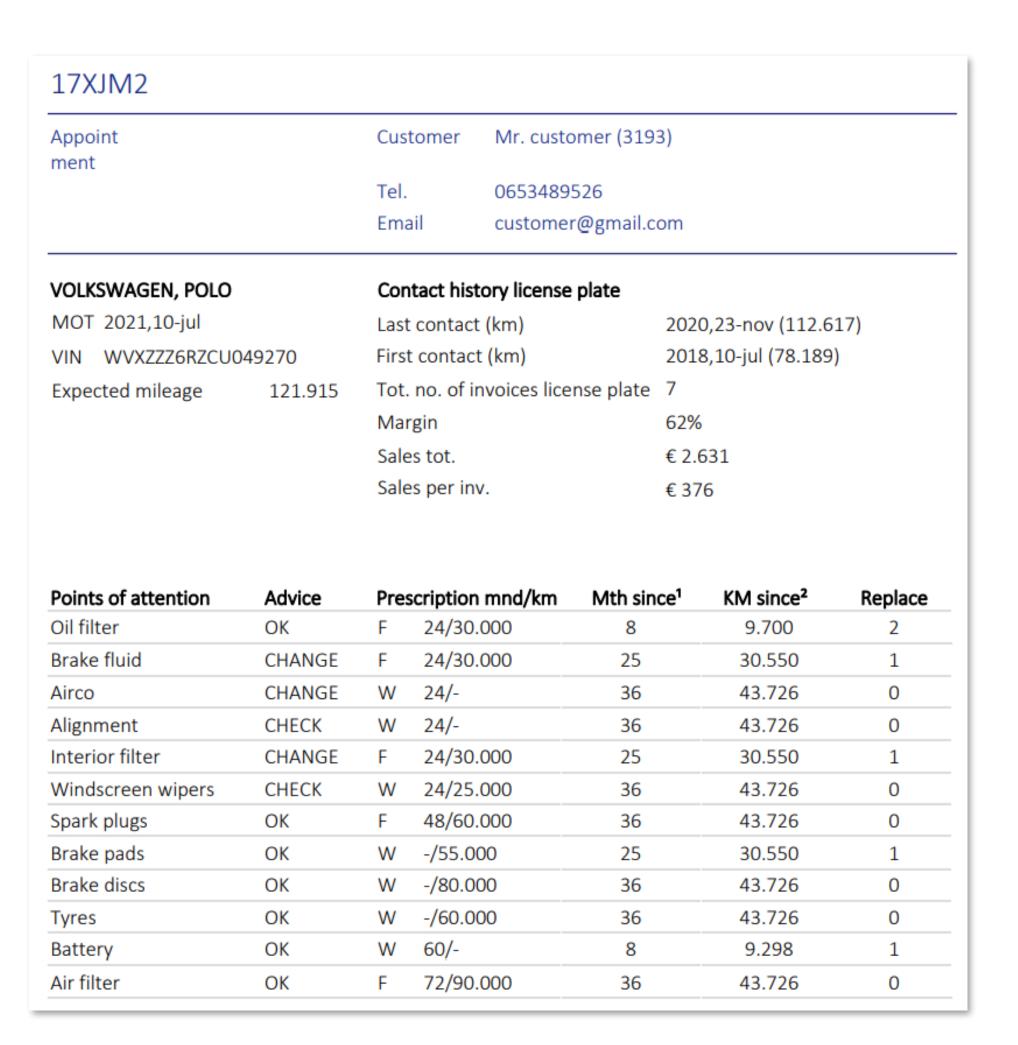
Compare an individual workshop performance with the market:



Predictive Maintenance (PRM)

API & Daily report with advice for all planned cars of the next day





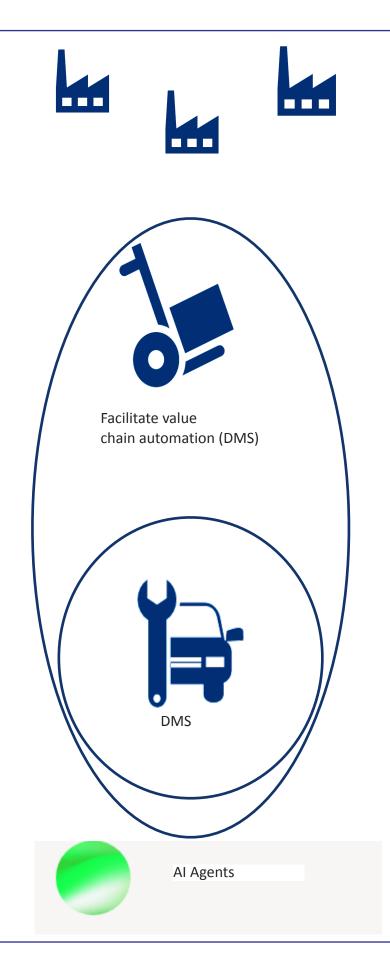
Daily pdf

Core competence of future trade:

Marketing and quality support are crucial for the wholesale to survive









Our fact-based consultancy can help implement your strategy and services and is not depending on a central used DMS





Product management in times of data overflow

We need solutions to manage this

Market Insight & Customer Data

- Vehicles in Operation (VIO)
- Market demand
- Competitor analysis

Go-to-Market & Sales

- Pricing strategy
- Digital visibility (SEO)
- Shelf space & positioning

Performance & Analytics

- Market share
- Point-of-sale data
- Profitability & KPIs

Product Strategy & Development

- Vehicle Application Coverage
- Innovation
- Assortment & lifecycle management

Supply Chain & Manufacturing

- Availability
- In-house vs. Outsourced Production
- Stock & supplier management

Compliance & Sustainability

- Certification
- ESG & CO₂ impact
- Recycling & circularity

Data & Catalogue Management

- Product Information Management (PIM)
- Catalogue completeness & accuracy
- Data synchronization (TecDoc, MAM, etc.)
- Compatibility mapping (vehicle fit, cross references)



Data access and data engineering

Chain as strong as the weakest element



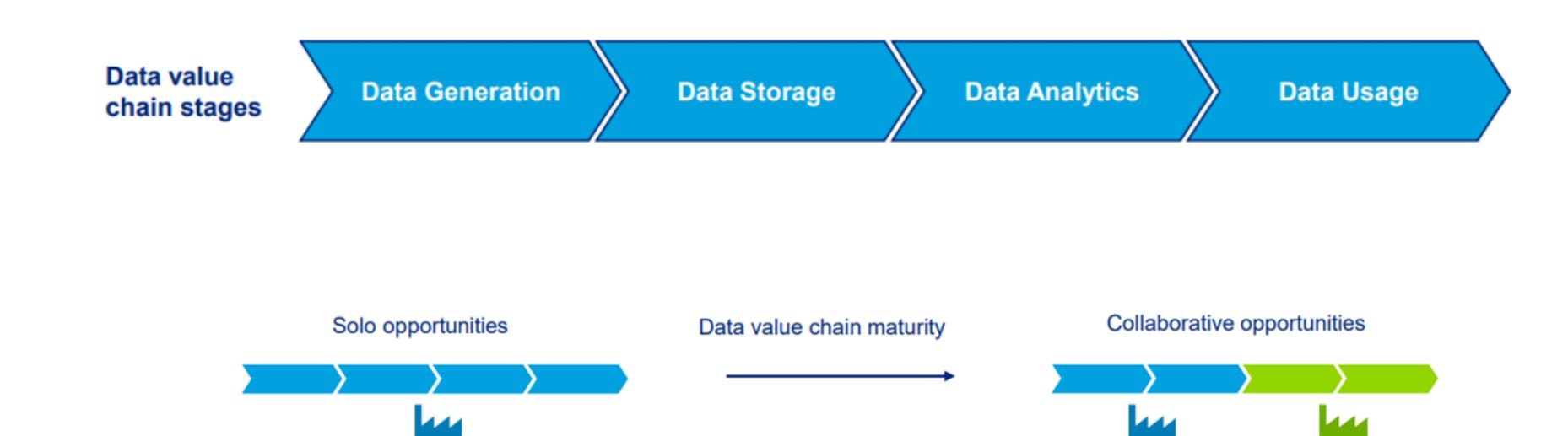
As the automotive industry digitizes, data will explode.

Data engineering is key to turning data into value."

+ Data act

Data value chain

Chain as strong as the weakest element



WESP eco system for retail data

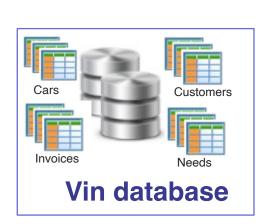
WESP tools & API data integration to support performance











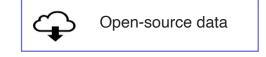
<u>Valeo</u>

Diagnostics data

Collaborate









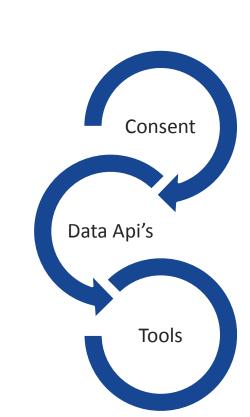


Trade data

Integrate

BOSCH Service

Network data





To benchmark, margin improvement, Performance optimization, retail training **Workshop Performance Dashboard (WPD)**

Network management:

Analyse & benchmark network, purchase loyalty **Network Performance Dashboard (NPD)**

Sales management

Market development, pricing, market share per country **Parts Performance Dashboard (PPD)**

Marketing support

Predictive maintenance, Deep learning targeting WESPMail, Pre-ordering, Fact Based Labor Calculation **Predictive Maintenance (PRM)** WESPMail (WML)

Product management

Data for assortment stock & supply chain improvement. **Total Market Calculator (TMC) / Fact Based Replacement Rates (EU)**



2015

Scriptie prediction on spare parts

$$\begin{split} R_{g,t} &= \lambda_g \big[B_g \big(t | \tau_g \big) - B_g \big(t - 1 | \tau_g \big) \big] \\ &\cdot \left\{ 1 - \sum_{h \in S | \tau_h > \tau_g} \frac{c_{g,h} \lambda_h \big[B_h \big(t | \tau_h \big) - B_h \big(t - 1 | \tau_h \big) \big]}{\sum_{j \in S | \tau_j > \tau_g} \nu_{j=g} c_{g,j} \lambda_j \big[B_j \big(t | \tau_j \big) - B_j \big(t - 1 | \tau_g \big) \big]} \right\} \\ &+ \sum_{i \in S | \tau_g > \tau_i} \lambda_i \big[B_i \big(t | \tau_i \big) - B_i \big(t - 1 | \tau_i \big) \big] \frac{c_{i,g} \lambda_g \big[B_g \big(t | \tau_g \big) - B_g \big(t - 1 | \tau_g \big) \big]}{\sum_{j \in S | \tau_j > \tau_i} \nu_{i,j} \lambda_j \big[B_j \big(t | \tau_j \big) - B_j \big(t - 1 | \tau_j \big) \big]} \\ &+ \delta_{3,i} \sum_{k=1}^t \big[A_i \big(t,k-1 \big) - A_i \big(t - 1,k \big) \big] R_{i,t-k} \frac{v_{i,g} \lambda_g \big[B_g \big(t | \tau_g \big) - B_g \big(t - 1 | \tau_g \big) \big]}{\sum_{j \in S | \tau_j > \tau_i} \nu_{i,j} \lambda_j \big[B_j \big(t | \tau_j \big) - B_j \big(t - 1 | \tau_j \big) \big]} \\ &+ \sum_{p \in P_g} \frac{\gamma_{p,g}}{\big|V_{g,p}\big|} \left(D_{p,t}^{01} \left\{ \sum_{v \in V_{g,p}} \lambda_g b_g \big(t + v | \tau_g \big) \left[1 - \sum_{h \in S | \tau_h > \tau_g} \frac{c_{g,h} \lambda_h b_h \big(t + v | \tau_h \big)}{\sum_{j \in S | \tau_j > \tau_i} \nu_{i,j} \lambda_j b_j \big(t + v | \tau_j \big)} \right] \\ &+ \sum_{i \in S | \tau_g > \tau_i} \lambda_i b_i \big(t + v | \tau_i \big) \frac{c_{i,g} \lambda_g b_g \big(t + v | \tau_g \big)}{\sum_{j \in S | \tau_j > \tau_i} \nu_{i,j} \lambda_j b_j \big(t + v | \tau_j \big)} \\ &+ \delta_{3,i} \sum_{k=1}^{t-u} a_i \big(t + v, k \big) R_{i,t+v-k} \frac{v_{i,g} \lambda_g b_g \big(t + v | \tau_g \big)}{\sum_{j \in S | \tau_j > \tau_g} \nu_{j=g} c_{g,j} \lambda_j b_j \big(t | \tau_j \big)} \\ &+ \sum_{i \in S | \tau_g > \tau_i} \lambda_i b_i \big(t | \tau_i \big) \frac{c_{i,g} \lambda_g b_g \big(t | \tau_g \big)}{\sum_{j \in S | \tau_j > \tau_i} \nu_{j=g} c_{i,j} \lambda_j b_j \big(t | \tau_j \big)} \\ &+ \delta_{3,i} \sum_{k=1}^{t} a_i \big(t, k \big) R_{i,t-k} \frac{v_{i,g} \lambda_g b_g \big(t | \tau_g \big)}{\sum_{j \in S | \tau_j > \tau_i} \nu_{i,j} \lambda_j b_j \big(t | \tau_j \big)} \right\} + \varepsilon_{g,t}. \end{aligned}$$

Key Drivers of Part Replacement

- Active vehicle count More cars = more parts needed
- Lifespan Wear based on time, usage
- Sales diffusion Driven by early adopters & imitators
- User behavior Varies by owner and mileage
- Ownership shifts Vehicles change hands, usage changes
- Seasonality Maintenance peaks by season
- Residual value Cheaper cars → cheaper parts
- Market choice Affected by price & availability
- Repeat cycles Some parts wear out again
- Data quality Good data = better forecasts

Stages of Al-agents development

But there are risks



Perception

Multi-modal fusion:

- Camera
- Text
- Audio
- Sensors

Cognition

Memory → Decision making
Knowledge Base → Decision making
Explain output

Action

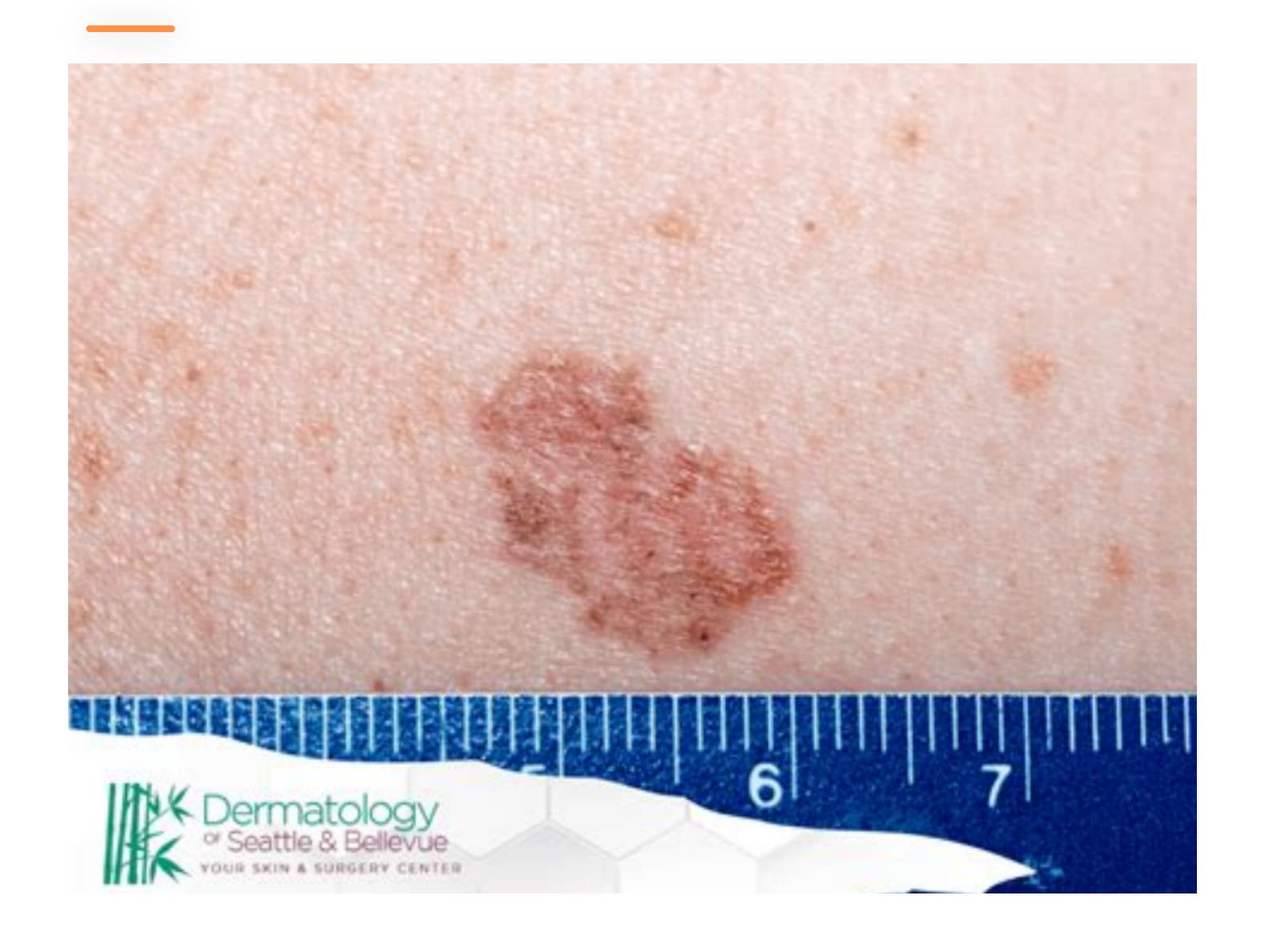
Executing Tasks:

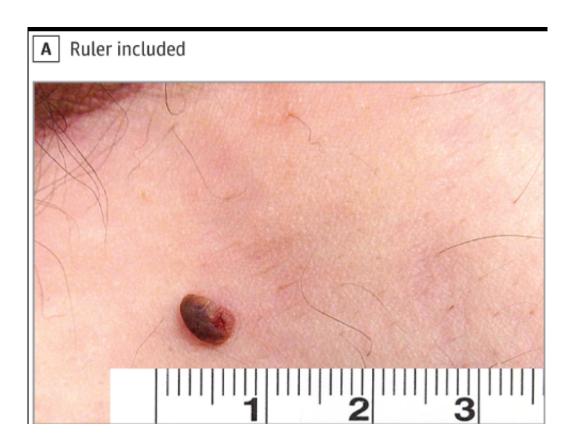
- Physical actions in realworld
- Monitor



Bias in Bias out

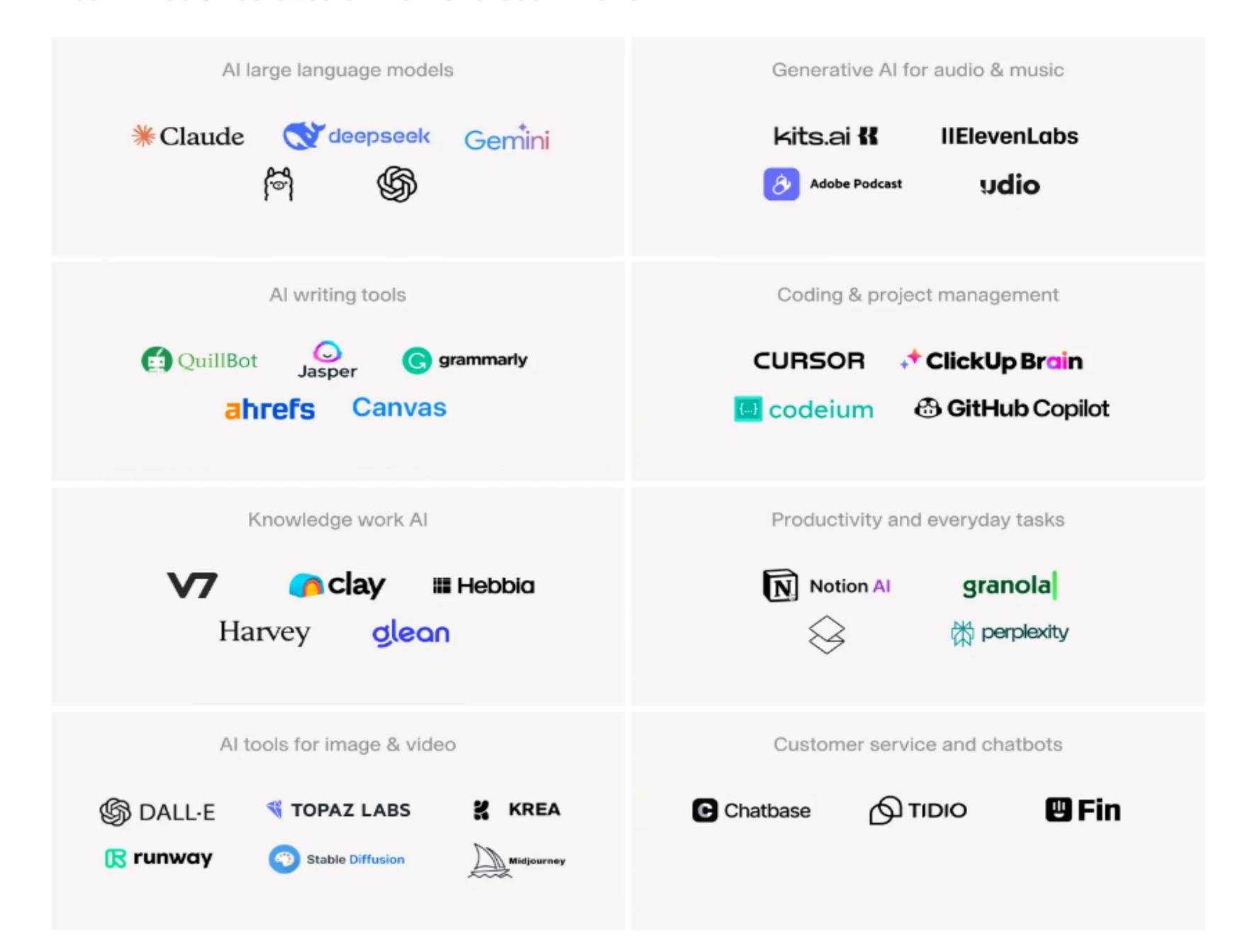
It's the data engineering that counts





- Data cleansing
- Input sanitization
- Bias masking
- Sensitive feature filtering

Best Al Tools You Should Know and Use in 2025



Machine learning

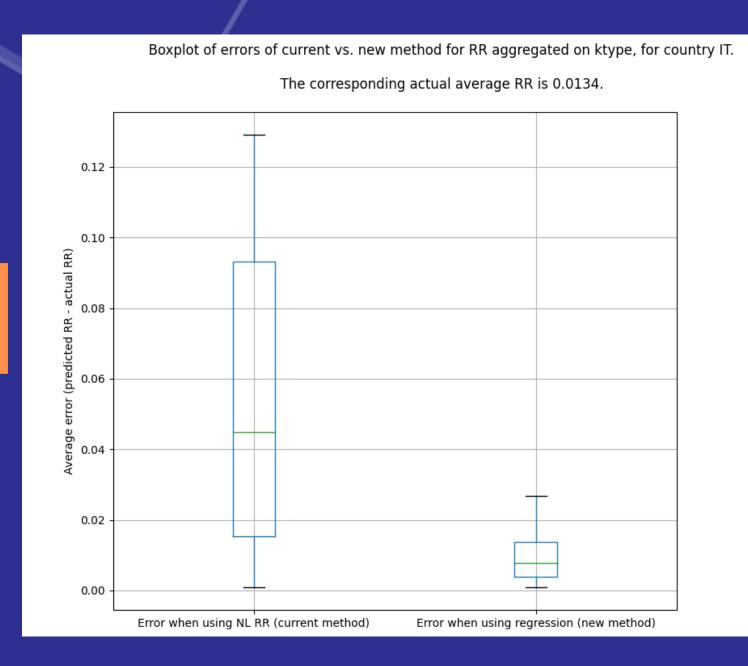
We use machine learning models to optimise the market calculations



ML Model:

- Use FBRR region data to train the model
- Research on key drivers for RR per Genart
- Add country specific datapoints (o.a temp / road condition / consumer spending)
- Developed a regression model per K-type / Genart combination
- 50% reduction error margins

	country	genart	ktype	Total Unique Cars Seen with Replacement	Total Unique Cars Seen with Vehicle Fit	RR per ktype genart country	GDP	temp	percip	accident	driven_km	road_quality	unemployment_rate	consumer_spending	NL RR for same ktype genart country combination	predictions	Error when using NL RR (current method)	Error when using regression (new method)
0	BE	447	32885	2	319	0.006270	50598	10.47	847	37699	14032	4.4	5.5	59175	0.009970	0.006196	0.003700	0.000074
1	BE	447	107747	1	494	0.002024	50598	10.47	847	37699	14032	4.4	5.5	59175	0.003227	0.002266	0.001202	0.000241
2	EN	686	28235	13	312	0.041667	47318	9.38	1220	123212	11840	4.9	4.3	407257	0.176532	0.066671	0.134865	0.025004
3	EN	686	126554	22	488	0.045082	47318	9.38	1220	123212	11840	4.9	4.3	407257	0.271403	0.120375	0.226321	0.075293
4	ВЕ	82	19045	13	255	0.050980	50598	10.47	847	37699	14032	4.4	5.5	59175	0.067882	0.056557	0.016901	0.005577



50% reduction on error margins

Predict unknown k-types

Predict regions without data source



Fact Based Replacement Rate API

Total Market Calculation including sell out of cross reference numbers



TMC Result

for "82 - Brake Disc"

Number of parts sold Sample size VIO TMC
(All cars visited with fit) (Vehicles in operation) (Calculated total market)

286.467 1.773.751 322.591.467 52.099.651

Lithuania Serbia **Total Europe** Finland Luxembourg Slovakia Austria France Macedonia Belgium Germany Slovenia Bosnia-Hercegovina Greece Montenegro Spain Netherlands Sweden Iceland Bulgaria Croatia Ireland Norway Switzerland Czech-Republic Turkey Israel Poland Ukraine Italy Portugal Denmark United Kingdom Estonia Latvia Romania

Fact Based Replacement Rate: 7,43%

Fact Based Replacement Rate Ignition Coil

Based on actual invoices of workshops (sample size 1.640.314 cars)

Weighted average replacement rate by production year (class 5 years):

A	FILE	DE	ED	CD	FC	**	All	D.F.	AT		DV	FT	CD		7.0	7.5	NO	DI	DT	DO.	CV	CF	CII
Average	EU	DE	FR	GB	ES	11	NL	BE	AT	CZ	DK	L1	GR	HU	IS	IE	NO	PL	PT	RO	SK	SE	CH
production year																							
Total	1,126%	1,508%	1,055%	1,037%	1,048%	0,930%	1,5112%	0,895%	1,194%	1,068%	1,005%	1,144%	1,091%	1,195%	0,737%	0,979%	0,862%	1,201%	1,082%	1,229%	1,107%	1,146%	1,230%
1990 <= x < 1995	0,022%	0,079%	0,006%	0,039%	0,008%	0,006%	0,7768%	0,069%	0,060%	0,005%	0,004%	0,020%	0,002%	0,006%	0,057%	0,048%	0,287%	0,015%	0,012%	0,001%	0,003%	0,277%	0,128%
1995 <= x < 2000	0,201%	0,484%	0,228%	0,245%	0,196%	0,141%	0,9823%	0,380%	0,379%	0,078%	0,217%	0,251%	0,174%	0,138%	0,096%	0,166%	0,257%	0,270%	0,222%	0,187%	0,093%	0,449%	0,251%
2000 <= x < 2005	1,502%	2,039%	1,651%	1,546%	1,576%	1,090%	2,2759%	1,793%	1,501%	1,273%	1,376%	1,796%	1,214%	1,501%	1,136%	1,696%	1,625%	1,497%	1,674%	1,475%	1,835%	2,306%	1,354%
2005 <= x < 2010	1,822%	2,390%	1,745%	1,915%	1,932%	1,453%	2,3136%	1,516%	1,695%	1,281%	1,908%	2,044%	1,983%	1,822%	1,581%	1,435%	1,708%	1,866%	1,432%	1,530%	1,492%	1,830%	1,895%
2010 <= x < 2015	2,089%	2,771%	2,438%	1,635%	1,967%	1,351%	2,7299%	1,829%	2,250%	2,689%	1,875%	1,980%	1,932%	2,308%	1,210%	1,279%	1,501%	1,867%	1,882%	2,099%	2,254%	1,657%	2,398%
2015 <= x < 2020	0,776%	0,877%	0,969%	0,726%	0,681%	0,739%	0,9263%	0,705%	0,853%	0,823%	0,797%	0,725%	0,779%	0,595%	0,515%	0,691%	0,552%	0,597%	0,671%	0,612%	0,722%	0,658%	0,807%
2020 <= x < 2025	0,435%	0,398%	0,426%	0,456%	0,838%	0,606%	0,4105%	0,142%	0,487%	0,428%	0,517%	0,182%	0,858%	0,395%	0,142%	0,879%	0,078%	0,352%	0,805%	0,753%	0,667%	0,148%	0,160%
-	0,605%	0,657%	0,563%	0,434%	0,579%	0,872%	0,7381%	0,543%	0,620%	0,598%	0,529%	0,350%	0,576%	0,568%	0,313%	0,436%	0,282%	0,678%	0,526%	0,799%	0,497%	0,394%	0,637%

Top 5 K-Types (EU):

K-Type full description	# cars with replacement (EU)	Total Number of cars that visited the workshop (sample size) EU	
FIAT 500 200710 - / 1.4 - 1368, 100HP, 74KW	70	583	12,0069%
BMW 1 200709 - 201106 / 1.6 - 1599, 122HP, 90KW	50	423	11,8203%
PEUGEOT 308 SW I 200709 - 201410 / 1.6 - 1598, 120HP, 88KW	93	914	10,1751%
PEUGEOT 3008 I 200906 - 201608 / 1.6 - 1598, 120HP, 88KW	92	921	9,9891%
BMW 3 Touring 200705 - 201205 / 2.0 - 1995, 143HP, 105KW	65	681	9,5448%

Sales Coverage Ignition Coil

Based on actual invoices of workshops (sample size 1.640.314 cars)

Product group: Ignition Coil

Total Euroean Market in units sold: 5.044.337 pcs

GenArtNr: 689

Market selected: Europe

Including 40.898 IAM and OE cross reference

numbers

Fact Based Replacement rate of the product group:

1,126%

Sales coverage versus VIO coverage :

Article manufacturer name	•	VIO coverage TecDoc Manufacturer (EU)	VIO coverage TecDoc Total market (EU)	VIO Coverage TecDoc	Rank VIO coverage	Market potential in units sold (EU)	Total market potential in units sold (EU)	Sales potential in units sold (EU)	Sales Coverage In units sold (EU)	Rank Sales Coverage
Total		181.077.733	181.077.733	100,00%			5.044.337			
NGK		164.808.480	181.077.733	91,02%	2	4.817.470	5.044.337	226.866	95,5%	10
WILMINK GROUP		169.582.025	181.077.733	93,65%	1	4.961.352	5.044.337	82.985	98,4%	1
BORGWARNER (BERU)		161.059.747	181.077.733	88,95%	3	4.859.633	5.044.337	184.704	96,3%	6
LUCAS		160.365.792	181.077.733	88,56%	4	4.869.537	5.044.337	174.800	96,5%	4
LEMARK		160.279.202	181.077.733	88,51%	5	4.870.397	5.044.337	173.940	96,6%	3
ERA		160.236.476	181.077.733	88,49%	6	4.873.282	5.044.337	171.054	96,6%	2

Examples of missing sales potential per K-type for : NGK

K-type full description	Additional Sales Potential in units sold (EU)
VW SHARAN 201807 - 202010 / 2.0 - 1968, 177HP, 130KW	8.962
MERCEDES-BENZ PAGODE 196801 - 197103 / 2.7 - 2780, 170HP, 125KW	7.352
CHEVROLET CAPTIVA 200610 - / 2.0 - 1991, 150HP, 110KW	6.948
AUDI Q5 200811 - 201209 / 2.0 - 1968, 170HP, 125KW	5.877
PORSCHE CAYENNE 202006 - / 4.0 - 3996, 460HP, 338KW	5.382
Total	226.866

Sales Coverage Ignition Coil

Based on actual invoices of workshops (sample size 1.640.314 cars)

Sales coverage versus VIO coverage :

Article manufacturer name	VIO coverage TecDoc Manufacturer (EU)	VIO coverage TecDoc Total market (EU)	VIO Coverage TecDoc	Rank VIO coverage	Market potential in units sold (EU)	Total market potential in units sold (EU)	Sales potential in units sold (EU)	Sales Coverage In units sold (EU)	Rank Sales Coverage
Total	181.077.733	181.077.733	100,00%			5.044.337			
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BORGWARNER (BERU)	161.059.747	181.077.733	88,95%	3	4.859.633	5.044.337	184.704	96,3%	6
LUCAS	160.365.792	181.077.733	88,56%	4	4.869.537	5.044.337	174.800	96,5%	4
LEMARK	160.279.202	181.077.733	88,51%	5	4.870.397	5.044.337	173.940	96,6%	3
ERA	160.236.476	181.077.733	88,49%	6	4.873.282	5.044.337	171.054	96,6%	2
INTERMOTOR	159.810.290	181.077.733	88,26%	7	4.859.937	5.044.337	184.400	96,3%	5
EFI AUTOMOTIVE	157.876.722	181.077.733	87,19%	8	4.745.926	5.044.337	298.411	94,1%	15
DELPHI	156.244.453	181.077.733	86,29%	9	4.738.434	5.044.337	305.903	93,9%	18
CHAMPION	155.609.899	181.077.733	85,94%	10	4.711.399	5.044.337	332.938	93,4%	23
TESLA	155.233.830	181.077.733	85,73%	11	4.780.134	5.044.337	264.203	94,8%	13
MOTAQUIP	154.524.641	181.077.733	85,34%	12	4.845.234	5.044.337	199.103	96,1%	7
QUINTON HAZELL	154.480.706	181.077.733	85,31%	13	4.823.577	5.044.337	220.760	95,6%	9
BREMI	154.470.503	181.077.733	85,31%	14	4.799.167	5.044.337	245.169	95,1%	11
XEVO	153.265.715	181.077.733	84,64%	15	4.717.694	5.044.337	326.643	93,5%	21
ELTA AUTOMOTIVE	153.088.475	181.077.733	84,54%	16	4.713.755	5.044.337	330.582	93,4%	22
NTY	150.966.109	181.077.733	83,37%	17	4.797.325	5.044.337	247.012	95,1%	12
HOFFER	149.545.930	181.077.733	82,59%	18-19	4.744.032	5.044.337	300.305	94,0%	16-17
MEAT & DORIA	149.545.930	181.077.733	82,59%	18-19	4.744.032	5.044.337	300.305	94,0%	16-17
SIDAT	148.738.364	181.077.733	82,14%	20-21	4.728.981	5.044.337	315.356	93,7%	19-20
FISPA	148.738.364	181.077.733	82,14%	20-21	4.728.981	5.044.337	315.356	93,7%	19-20
RIDEX	147.964.520	181.077.733	81,71%	22	4.844.479	5.044.337	199.858	96,0%	8
METZGER AUTOTEILE	146.234.339	181.077.733	80,76%	23	4.570.168	5.044.337	474.169	90,6%	29
OSSCA	146.233.178	181.077.733	80,76%	24	4.709.508	5.044.337	334.829	93,4%	24
HELLA	145.610.771	181.077.733	80,41%	25	4.567.535	5.044.337	476.802	90,5%	30





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