



# Arcos Group

## Sample Inventory Optimization Output

**Client:** Commercial Vehicle Aftermarket Parts Retailer

**Investor:** middle market PE-fund, \$30B+ AUM

**Scope:** identify and address opportunities to unlock cash through inventory reduction

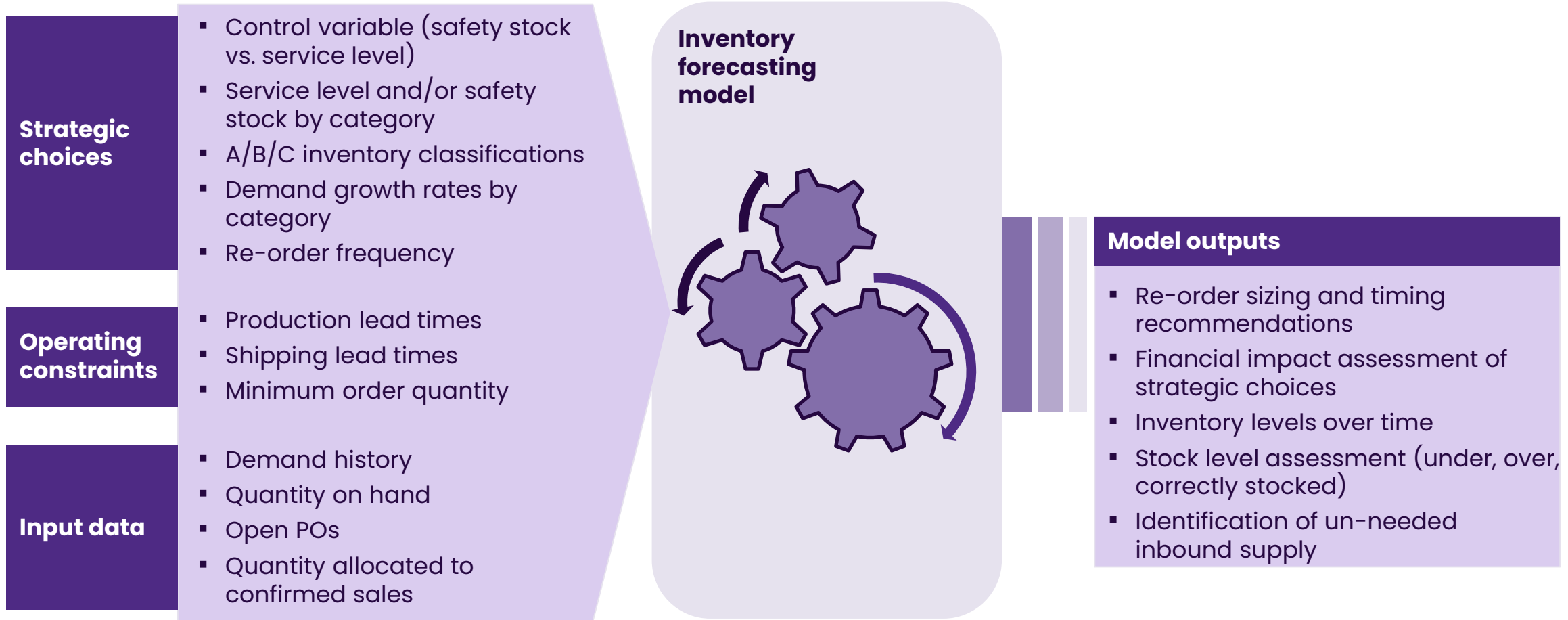
MARCH 2020

# Capability building journey: Inventory management

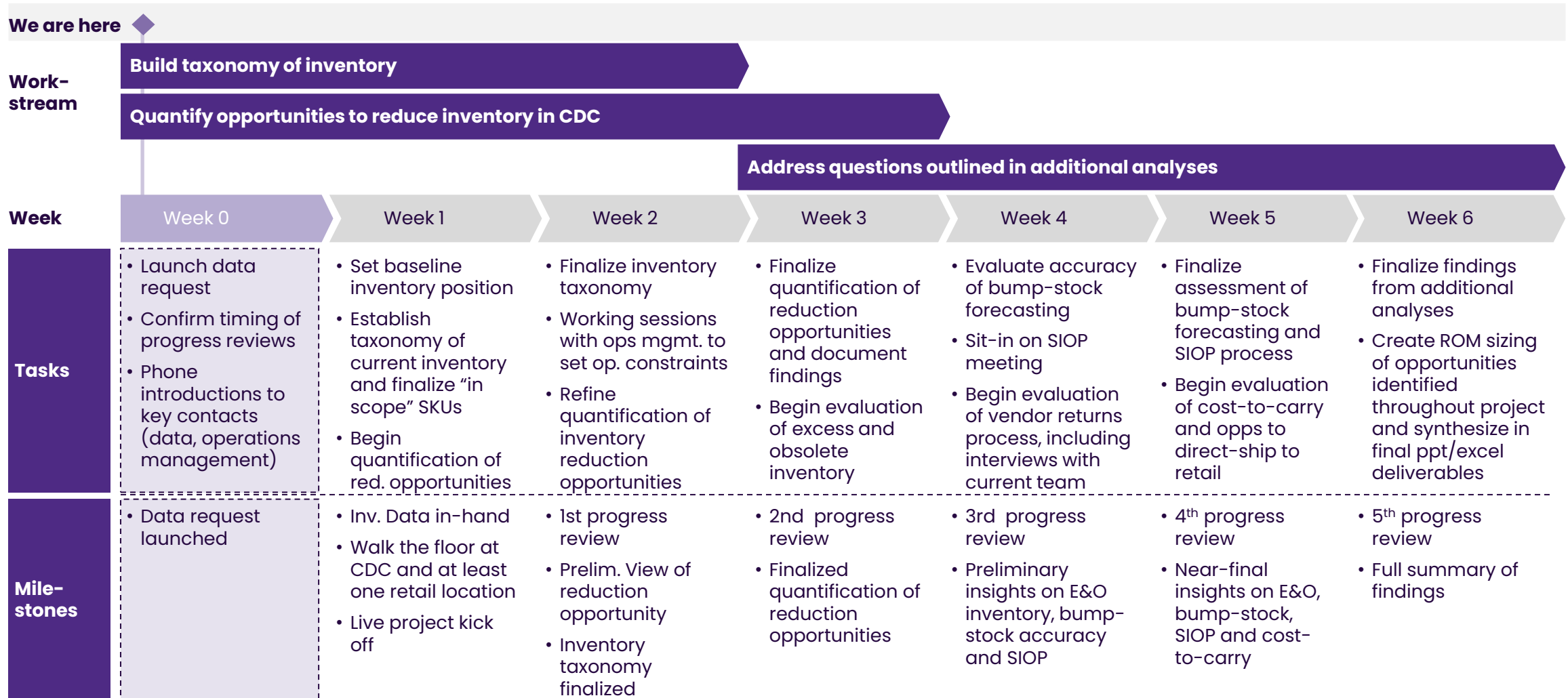


	1 Rules of thumb used to manage inventory levels	2 Systematic process relying on both ERP and Excel tools	3 ERP launched with automated capabilities
<b>Production forecast</b>	<ul style="list-style-type: none"> <li>No forecast uploaded in ERP</li> <li>Historical demand analyzed in Excel to inform order quantity</li> </ul>	<ul style="list-style-type: none"> <li>Historical demand based</li> <li>Calculated in Excel</li> <li>Owned by purchasing</li> </ul>	<ul style="list-style-type: none"> <li>Based on historical demand, sales orders, seasonality</li> <li>Calculated in ERP add-in</li> <li>Owned by sales</li> </ul>
<b>Item info / policies</b>	<ul style="list-style-type: none"> <li>Fixed as of historical upload</li> <li>Blindly follow contract terms</li> </ul>	<ul style="list-style-type: none"> <li>Updated at regular cadence (weekly or monthly)</li> </ul>	<ul style="list-style-type: none"> <li>Automatically updated by ERP add-in</li> </ul>
<b>Function of purchasing org</b>	<ul style="list-style-type: none"> <li>Firefighting to keep products on the shelves</li> </ul>	<ul style="list-style-type: none"> <li>Majority of effort to "running the process" and auditing suggested purchase orders</li> </ul>	<ul style="list-style-type: none"> <li>Strategy focused: supply redundancy, qualification and price negotiation</li> </ul>
<b>Function of sales org</b>	<ul style="list-style-type: none"> <li>No ties to supply chain</li> </ul>	<ul style="list-style-type: none"> <li>Creates promotions for overstock products</li> </ul>	<ul style="list-style-type: none"> <li>Owens demand forecast</li> </ul>

# The inventory forecasting model uses strategic choices and operating constraints to identify opportunities to unlock cash in the supply chain



# Typical inventory optimization project plan



# Example output: inventory reduction potential over 12 month period

## Operating constraints

Constraint	Value
Re-order frequency	▪ 1.0 weeks
Production lead time	▪ SKU-dependent. Avg. 24 days

## Service level inputs

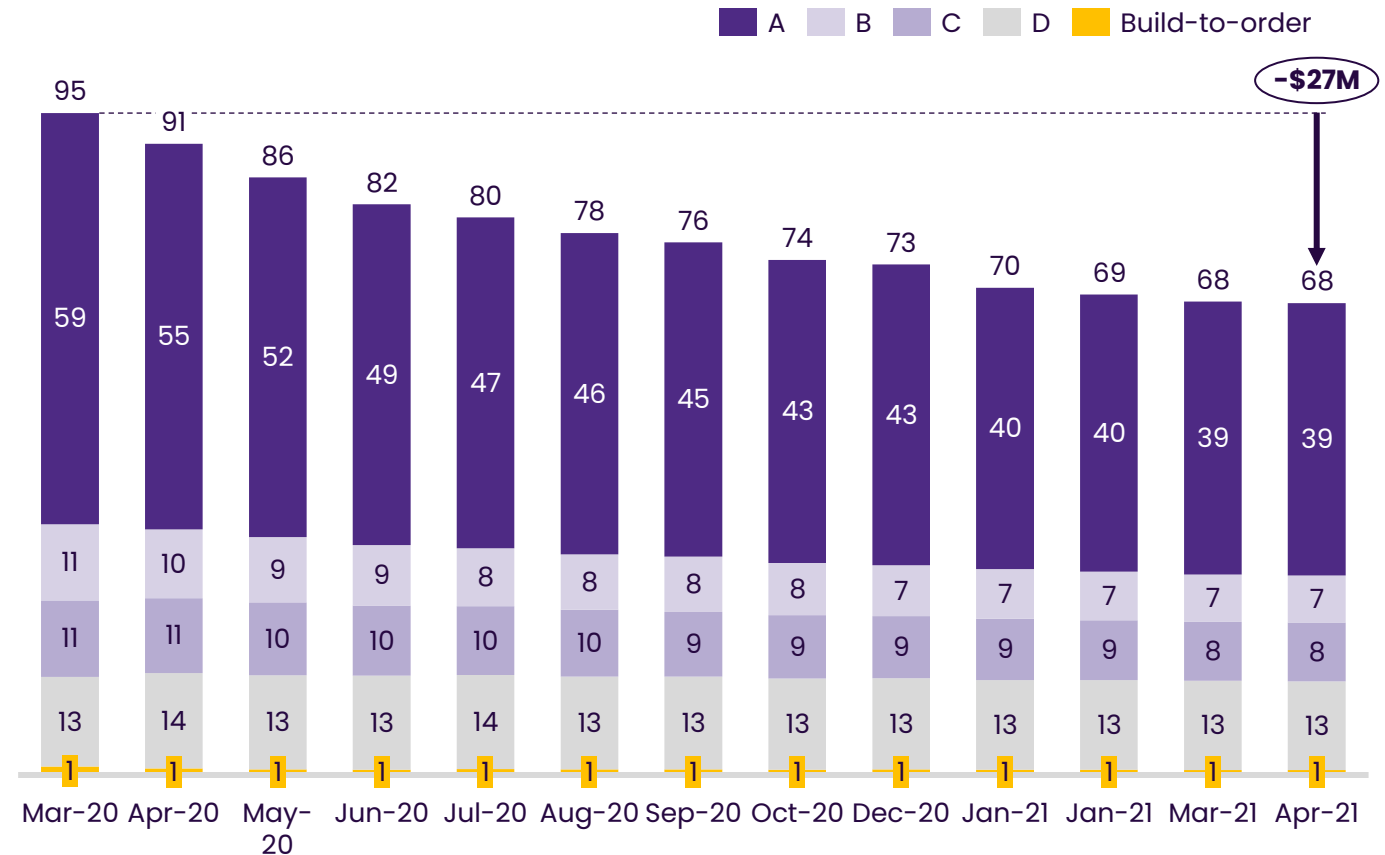
SKU classification	Target Service level
1	▪ 96.0%
2	▪ 95.0%
3	▪ 94.0%
4	▪ 94.0%
5	▪ 93.0%
6-12	▪ N/A – no safety stock held

## Other assumptions

Assumption	Value
<b>Demand forecast:</b>	▪ Based on historical
<b>Service level calculation:</b>	▪ <b>Mean:</b> 12 month historical based ▪ <b>Standard deviation:</b> 12 month historical ▪ <b>Service level:</b> User input (see above)
<b>Other:</b>	▪ <b>No re-ordering activities for ABC cat 6-12 or items with stocked value = false</b> ▪ <b>SKU 123</b> demand override ▪ <b>SKU 345</b> demand history corrected

## Distribution Center inventory forecast at target service levels

Millions USD



# Opportunity detail: high impact drivers of inventory changes identified in forecast

	Part number	Description	Unit cost	ABC class.	Qty on hand	Avg. monthly consumption	Months on hand	Target qty on hand	Working capital impact
Opportunities to improve service level	SKU 1	SYNCHRO KIT	\$636.00	01	22	1	18.9	39	<b>\$219,049<sup>1</sup></b>
	SKU 2	AIRSPRING	\$350.00	04	0	46	0.0	197	<b>\$86,114</b>
	SKU 3	BRK SHOE	\$10.08	01	1,850	17,153	0.1	9,035	<b>\$72,423</b>
	SKU 4	BRK SHOE	\$33.50	01	81	677	0.1	1,514	<b>\$52,096</b>
	SKU 5	AD-IS CRT	\$69.77	01	112	197	0.6	773	<b>\$46,127</b>
	SKU 6	SYNC ASSY AUX	\$28.31	01	138	678	0.2	1,427	<b>\$39,956</b>
	SKU 7	BRK KIT 41007QP	\$26.31	01	2,403	8,262	0.3	3,683	<b>\$33,670</b>
	SKU 8	MAG Inside Moun	\$229.70	01	0	109	0.0	108	<b>\$24,764</b>
Inventory reduction opportunities	SKU 9	WHEEL 22	\$135.00	01	653	202	3.2	223	<b>(\$57,983)</b>
	SKU 10	BRK DRUM	\$115.55	01	704	174	4.0	122	<b>(\$61,901)</b>
	SKU 11	4" X 30' STRAP	\$7.90	01	13,460	2,699	5.0	2,344	<b>(\$64,110)</b>
	SKU 12	BATTERY	\$76.06	01	2,123	999	2.1	1,100	<b>(\$77,775)</b>
	SKU 13	BRK KIT 4515Q	\$24.99	01	4,221	2,384	1.8	1,002	<b>(\$80,446)</b>
	SKU 14	BATTERY	\$66.26	01	2,286	977	2.3	673	<b>(\$106,896)</b>
	SKU 15	SPRNG BRK	\$16.50	01	12,872	3,013	4.3	2,919	<b>(\$149,533)</b>
	SKU 16	HDWR KIT	\$3.02	01	105,454	21,291	5.0	20,521	<b>(\$177,521)</b>

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