



# 2020 THROUGHPUT BENCHMARK REPORT

# 2020 Throughput Benchmark Report

All companies – from retail to food and beverage to 3PLs – strive to have efficient operations, particularly at their distribution centers (DCs). One common way this efficiency is measured is by throughput, a measure of how quickly and efficiently goods move through a facility. This gives companies an indication of how well their people, processes, and technology are working together.

Many DCs share similar processes and product dimensions; this benchmark report will provide a glimpse into the throughput metrics of your competitors. Benchmarking allows you to compare your similar process throughputs to your competition to measure where your operating processes stand against industry norms. Each row indicates data points from actual facilities across North America that can be used as a comparative benchmark against your operations.

enVista can help determine where your operations stand and how to make improvements. enVista has several approaches to help our clients improve their supply chain operations from source to consumption, including:

- Supply Chain Network Design - Facility Design
- Workforce Management
- Lean Six Sigma
- System Selection and Implementation

All of these solutions lead to improved supply chain efficiency and ultimately increased throughput.



											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
3PL	e-Commerce	750,000	Receiving	Audit, Receive, Sort to Drop Zone Pallet	RF	Human	Cases	I	N/A	Y	56.7	63	69.3
3PL	e-Commerce	750,000	Receiving	Cubiscan	Computer	Human	Cases	I	N/A	Y	24.3	27	29.7
3PL	e-Commerce	750,000	Receiving	Drop Zone to Final Putaway Location	RF	Order Picker	Cases	I	N/A	N	116.1	129	141.9
3PL	e-Commerce	750,000	Replenishment	Pick from Storage and place to Conveyor drop zone	RF	Order Picker	Cases	I	N/A	N	31.5	35	38.5
3PL	e-Commerce	750,000	Picking	Module Picking	RF	Cart	Units / Eaches	I	N/A	N	60.3	67	73.7
3PL	e-Commerce	750,000	Picking	Case Picking - Non-Conveyables	RF	Manual Jack	Cases	I	N/A	N	25.2	28	30.8
3PL	e-Commerce	750,000	Packing	Pack Single SKU Orders	Computer	Human	Cartons	I	N/A	Y	44.1	49	53.9
3PL	e-Commerce	750,000	Packing	Pack Multi-SKU Orders	Computer	Human	Cartons	I	N/A	Y	31.5	35	38.5
3PL	e-Commerce	750,000	Shipping	Loading Cartons onto a Trailer	RF	Human	Cartons	I	N/A	Y	243	270	297
3PL	e-Commerce	750,000	Shipping	Cycle Count	RF	Human	Locations	I	N/A	N	42.3	47	51.7
Food & Beverage	Food Manufacturing	227,000	Receiving	ASN Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	21.6	24	26.4
Food & Beverage	Food Manufacturing	227,000	Receiving	Rail ASN Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	26.1	29	31.9
Food & Beverage	Food Manufacturing	227,000	Receiving	PO Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	26.1	29	31.9
Food & Beverage	Food Manufacturing	227,000	Internal Move	Unload and Put Away from Shuttle Trailer	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	27	30	33
Food & Beverage	Food Manufacturing	227,000	Internal Move	Bin Consolidation	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	17.1	19	20.9
Food & Beverage	Food Manufacturing	227,000	Replenishment	Replenishment	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	15.3	17	18.7
Food & Beverage	Food Manufacturing	227,000	Picking	Case Pick	RF	Fork w/ Slip Attachment	Cases	I	N/A	N	302.4	336	369.6
Food & Beverage	Food Manufacturing	227,000	Loading	Pick and Load - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	13.5	15	16.5
Food & Beverage	Food Manufacturing	227,000	Loading	Rail Pick and Load - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	24.3	27	29.7
Food & Beverage	Food Manufacturing	200,000	Receiving	ASN Receiving - Full Pallet	RF	Fork Lift	Pallet	I	N/A	N	19.8	22	24.2
Food & Beverage	Food Manufacturing	200,000	Receiving	PO Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	19.8	22	24.2
Food & Beverage	Food Manufacturing	200,000	Internal Move	Line Haul - Put Away from Production Line	RF	Fork Lift	Pallet	I	N/A	N	28.8	32	35.2
Food & Beverage	Food Manufacturing	200,000	Internal Move	Bin Consolidation	RF	Fork Lift	Pallet	I	N/A	N	39.6	44	48.4
Food & Beverage	Food Manufacturing	200,000	Replenishment	Replenishment	RF	Fork Lift	Pallet	I	N/A	N	14.4	16	17.6
Food & Beverage	Food Manufacturing	200,000	Picking	Case Pick	RF	Fork Lift	Cases	I	N/A	N	193.5	215	236.5
Food & Beverage	Food Manufacturing	200,000	Loading	Pick and Load - Full Pallet	RF	Fork Lift	Pallet	I	N/A	N	21.6	24	26.4
Food & Beverage	Food Manufacturing	675,000	Receiving	ASN Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	37.8	42	46.2
Food & Beverage	Food Manufacturing	675,000	Receiving	PO Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	32.4	36	39.6
Food & Beverage	Food Manufacturing	675,000	Internal Move	Line Haul - Put Away from Production Line	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	45	50	55
Food & Beverage	Food Manufacturing	675,000	Internal Move	Bin Consolidation	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	32.4	36	39.6
Food & Beverage	Food Manufacturing	675,000	Replenishment	Replenishment	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	17.1	19	20.9
Food & Beverage	Food Manufacturing	675,000	Picking	Case Pick	RF	Fork w/ Slip Attachment	Cases	I	N/A	N	148.5	165	181.5
Food & Beverage	Food Manufacturing	675,000	Loading	Pick and Load - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	26.1	29	31.9
Food & Beverage	Food Manufacturing	323,000	Receiving	ASN Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	26.1	29	31.9
Food & Beverage	Food Manufacturing	323,000	Receiving	PO Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	27.9	31	34.1
Food & Beverage	Food Manufacturing	323,000	Internal Move	Line Haul - Put Away from Production Line	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	23.85	26.5	29.15



											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
Food & Beverage	Food Manufacturing	323,000	Internal Move	Bin Consolidation	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	26.1	29	31.9
Food & Beverage	Food Manufacturing	323,000	Replenishment	Replenishment	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	31.5	35	38.5
Food & Beverage	Food Manufacturing	323,000	Picking	Case Pick	RF	Fork w/ Slip Attachment	Cases	I	N/A	N	281.7	313	344.3
Food & Beverage	Food Manufacturing	323,000	Loading	Pick and Load - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	16.2	18	19.8
Food & Beverage	Food Manufacturing	618,000	Receiving	ASN Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	27.9	31	34.1
Food & Beverage	Food Manufacturing	618,000	Receiving	PO Receiving - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	37.8	42	46.2
Food & Beverage	Food Manufacturing	618,000	Internal Move	Line Haul - Put Away from Production Line	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	45	50	55
Food & Beverage	Food Manufacturing	618,000	Internal Move	Bin Consolidation	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	37.8	42	46.2
Food & Beverage	Food Manufacturing	618,000	Replenishment	Replenishment	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	15.3	17	18.7
Food & Beverage	Food Manufacturing	618,000	Picking	Case Pick	RF	Fork w/ Slip Attachment	Cases	I	N/A	N	189.9	211	232.1
Food & Beverage	Food Manufacturing	618,000	Loading	Pick and Load - Full Pallet	RF	Fork w/ Slip Attachment	Pallet	I	N/A	N	25.2	28	30.8
Food & Beverage	Food Manufacturing	100,000	Receiving	Full Pallet Put Away	RF	Fork Lift	Pallet	I	N/A	N	19.8	22	24.2
Food & Beverage	Food Manufacturing	100,000	Receiving	Full Pallet Put Away from Palletizer	RF	Fork Lift	Pallet	I	N/A	N	23.4	26	28.6
Food & Beverage	Food Manufacturing	100,000	Internal Move	Put Away of Pallet Totes from Production Line	RF	Fork Lift	Pallet	I	N/A	N	32.4	36	39.6
Food & Beverage	Food Manufacturing	100,000	Internal Move	Transport of FG Pallet to Wrapper	RF	Fork Lift	Pallet	I	N/A	N	31.5	35	38.5
Food & Beverage	Food Manufacturing	100,000	Internal Move	Transport of Raw Materials to Production Staging Areas	RF	Fork Lift	Pallet	I	N/A	N	13.5	15	16.5
Food & Beverage	Food Manufacturing	100,000	Picking	Full Unit Pick and Load	RF	Fork Lift	Pallet	I	N/A	N	29.7	33	36.3
Food & Beverage	Food Manufacturing	<100K	Case Picking	Bulk Case Picking to Pallet Jack	Voice	Pallet Jack (sgl)	Cases	I	N/A	N	171	190	209
Food & Beverage	Food Manufacturing	<100K	Case Picking	Bulk Case Picking to Pallet Jack	Voice	Pallet Jack (sgl)	Cases	I	N/A	N	202.5	225	247.5
Food & Beverage	Food Manufacturing	<100K	Case Picking	Bulk Case Picking to Pallet Jack	Voice	Pallet Jack (sgl)	Cases	I	N/A	N	261	290	319
Food & Beverage	Food Manufacturing	<100K	Case Picking	Bulk Case Picking to Pallet Jack	Voice	Pallet Jack (sgl)	Cases	I	N/A	N	225	250	275
Food & Beverage	Food Manufacturing	500,000	Layer Picker	Layer Picker - Ambient	RF	Layer Picker	Stops	I	N/A	Y	36	40	44
Food & Beverage	Food Manufacturing	500,000	Layer Picker	Layer Picker - Conditioned	RF	Layer Picker	Stops	I	N/A	Y	32.4	36	39.6
Food & Beverage	Food Manufacturing	500,000	Layer Pick Runner	Layer Pick Runner - Ambient (assume 60 ft travel/trip)	RF	Sit Down	Pallets	I	N/A	Y	24.3	27	29.7
Food & Beverage	Food Manufacturing	500,000	Layer Pick Runner	Layer Pick Runner - Conditioned	RF	Sit Down	Pallets	I	N/A	Y	15.3	17	18.7
Food & Beverage	Food Manufacturing	500,000	Bin Consolidation	Assumes 250 ft travel / trip and 10 pallets per location	RF	Sit Down/Reach	Pallets	I	N/A	Y	27.9	31	34.1
Food & Beverage	Food Manufacturing	500,000	Casepick	Assumes 100 cases / pallet, 10 stops / pallet, 150 ft travel average	RF	Sit Down	Cases	I	N/A	Y	230.4	256	281.6
Food & Beverage	Food Manufacturing	500,000	Full Unit Pick	Full pallet pick to stage (assume 250 ft travel/trip)	RF	Sit Down/Reach	Pallets	I	N/A	Y	26.1	29	31.9
Food & Beverage	Food Manufacturing	500,000	Loading	Loading from stage	RF	Sit Down	Pallets	I	N/A	Y	55.8	62	68.2
Food & Beverage	Food Manufacturing	500,000	Loading	Loading LTL from stage	RF	Sit Down	Pallets	I	N/A	Y	72.9	81	89.1
Food & Beverage	Food Manufacturing	500,000	Putaway	Putaway from stage to reserve (assume 350 ft travel/trip)	RF	Sit Down/Reach	Pallets	I	N/A	Y	32.4	36	39.6





Throughput

Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
Food & Beverage	Food Manufacturing	500,000	Receiving	Receiving to stage NonASN - no shunting	RF	Sit Down	Pallets	I	N/A	Y	33.3	37	40.7
Food & Beverage	Food Manufacturing	500,000	Receiving	Receiving to stage	RF	Sit Down	Pallets	I	N/A	Y	0	0	0
Food & Beverage	Food Manufacturing	500,000	Replenishment	Replenishment (assume 280 ft travel / trip)	RF	Sit Down/Reach	Pallets	I	N/A	Y	26.1	29	31.9
Retail	Retail Store	503,000	Receiving	ASN Receiving	RF	Human	Cases	I	N/A	Y	40.5	45	49.5
Retail	Retail Store	503,000	Receiving	Receiving Case Transfer	RF	Human	Cases	I	N/A	Y	61.2	68	74.8
Retail	Retail Store	503,000	Receiving	Receive Identify	RF	Human	Cases	I	N/A	Y	16.2	18	19.8
Retail	Retail Store	503,000	Receiving	Receive Stage	RF	Human	Cases	I	N/A	Y	51.3	57	62.7
Retail	Retail Store	503,000	Receiving	Put Away Transport	RF	Human	Pallet	I	N/A	N	26.1	29	31.9
Retail	Retail Store	503,000	Receiving	Full Pallet Put Away	RF	Human	Pallet	I	N/A	N	23.4	26	28.6
Retail	Retail Store	503,000	Receiving	Mixed Pallet Put Away	RF	Human	Line Items	I	N/A	N	26.1	29	31.9
Retail	Retail Store	503,000	Picking	Outbound Case Picking	RF	Human	Line Items	I	N/A	N	6.3	7	7.7
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Turret Replen	RF	Turret	Pallet	I	N/A	Y	13.50	15.00	16.50
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Cherry Picker Replen	RF	Cherry Picker	Pallet	I	N/A	Y	12.38	13.75	15.13
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Pallet Jack Replen	RF	Pallet Jack	Pallet	I	N/A	Y	21.06	23.40	25.74
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Inventory Move	RF	Turret	Pallet	I	N/A	Y	20.61	22.90	25.19
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Floor Pick	RF	Dbl Pallet Jack	Pallet	I	N/A	Y	2.43	2.70	2.97
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Air Pick	RF	Dbl Pallet Jack	Units / Eaches	I	N/A	Y	18.90	21.00	23.10
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Air Pick	RF	Cherry Picker	Pallet	I	N/A	Y	3.69	4.10	4.51
Retail	e-Commerce	1 Million+	Forward Pick	Forward Pick Air Pick	RF	Cherry Picker	Units / Eaches	I	N/A	Y	46.35	51.50	56.65
Retail	e-Commerce	1 Million+	Receiving	Hand Stack Sort Small Unload	Kiosk	Team	Cases	T	4	Y	307.35	341.50	375.65
Retail	e-Commerce	1 Million+	Receiving	Hand Stack Sort Medium Unload	Kiosk	Team	Cases	T	4	Y	206.73	229.70	252.67
Retail	e-Commerce	1 Million+	Receiving	Hand Stack Small Unload	Kiosk	Team	Cases	T	3	Y	433.44	481.60	529.76
Retail	e-Commerce	1 Million+	Receiving	Hand Stack Medium Unload	Kiosk	Team	Cases	T	3	Y	378.63	420.70	462.77
Retail	e-Commerce	1 Million+	Receiving	Hand Stack Large Unload	Kiosk	Team	Cases	T	3	Y	231.39	257.10	282.81
Retail	e-Commerce	1 Million+	Receiving	Hand Stack to Stack Frame Small Unload	Kiosk	Team	Cases	T	3	Y	336.87	374.30	411.73
Retail	e-Commerce	1 Million+	Receiving	Hand Stack to Stack Frame Medium Unload	Kiosk	Team	Cases	T	3	Y	378.72	420.80	462.88
Retail	e-Commerce	1 Million+	Receiving	Hand Stack to Stack Frame Large Unload	Kiosk	Team	Cases	T	3	Y	187.29	208.10	228.91
Retail	e-Commerce	1 Million+	Receiving	Hand Stack to Stack Frame Extra-Large Unload	Kiosk	Team	Cases	T	3	Y	127.17	141.30	155.43
Retail	e-Commerce	1 Million+	Receiving	Fork Lift Unload Palletized load	Kiosk	Fork Lift	Pallet	I	N/A	Y	28.17	31.30	34.43
Retail	e-Commerce	1 Million+	Receiving	Double Pallet Jack Unload Palletized load	Kiosk	Dbl Pallet Jack	Pallet	I	N/A	Y	47.52	52.80	58.08
Retail	e-Commerce	1 Million+	Receiving	Use Clamp to Unload from Trailer	Kiosk	Fork Lift	Pallet	I	N/A	Y	33.93	37.70	41.47
Retail	e-Commerce	1 Million+	Receiving	Receiver walks to pallets, RF Receives	RF	Walk	Pallet	I	N/A	Y	102.78	114.20	125.62
Retail	e-Commerce	1 Million+	Receiving	Work on Dock to break down pallets with Clamp	Kiosk	Fork Lift	Pallet	I	N/A	Y	39.60	44.00	48.40
Retail	e-Commerce	1 Million+	Receiving	Hand-Stack+Wrap+Stage product on dock to breakdown	Kiosk	Walk	Cases	T	2	Y	332.82	369.80	406.78



											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
Retail	e-Commerce	1 Million+	Receiving	Hand-Stack+Wrap+Stage product on dock to breakdown	Kiosk	Fork Lift	Pallet	T	2	Y	27.36	30.40	33.44
Retail	e-Commerce	1 Million+	Put Away	Move Stack Frame from Dock Area to Bulk Storage	RF	DPJ/ Reach Truck	Pallet	I	N/A	Y	4.50	5.00	5.50
Retail	e-Commerce	1 Million+	Put Away	Putaway with Turret Truck	RF	Turret	Pallet	I	N/A	Y	26.37	29.30	32.23
Retail	e-Commerce	1 Million+	Transport	Transport of Pallet to Staging, break-down units to orders in staging area	RF	Dbl Pallet Jack	Pallet	I	N/A	Y	36.54	40.60	44.66
Retail	e-Commerce	1 Million+	Transport	Transport of Pallet to Staging, break-down units to orders in staging area	RF	Dbl Pallet Jack	Units / Eaches	I	N/A	Y	419.04	465.60	512.16
Retail	e-Commerce	1 Million+	Transport	Move Pallets from PnDs to Outbound Staging	RF	Dbl Pallet Jack	Pallet	I	N/A	Y	31.86	35.40	38.94
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Floor Pick	RF	Pallet Jack	Pallet	I	N/A	Y	2.43	2.70	2.97
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Floor Pick	RF	Pallet Jack	Units / Eaches	I	N/A	Y	18.90	21.00	23.10
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Air Pick	RF	Cherry Picker	Pallet	I	N/A	Y	3.69	4.10	4.51
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Air Pick	RF	Cherry Picker	Units / Eaches	I	N/A	Y	46.35	51.50	56.65
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Pallet Pick by Turret Truck	RF	Turret	Pallet	I	N/A	Y	27.18	30.20	33.22
Retail	e-Commerce	1 Million+	Reserve Pick	Pick from Non-Conveyable Stack Frame area	RF	DPJ/ Reach Truck	Units / Eaches	I	N/A	Y	42.57	47.30	52.03
Retail	e-Commerce	1 Million+	Reserve Pick	Reserve Area Replen by Turret Truck	RF	Turret	Pallet	I	N/A	Y	19.98	22.20	24.42
Retail	e-Commerce	1 Million+	Manual Pack	Person supplying 4 Pack stations with items	Kiosk	Walk	Units / Eaches	I	N/A	Y	242.10	269.00	295.90
Retail	e-Commerce	1 Million+	Manual Pack	Manual Pack of Non-Conveyable product. Includes weighing.	Computer	Dbl Pallet Jack	Pallet	I	N/A	Y	32.22	35.80	39.38
Retail	e-Commerce	1 Million+	Manual Pack	Manual Pack of Non-Conveyable product. Includes weighing.	Computer	Dbl Pallet Jack	Units / Eaches	I	N/A	Y	39.06	43.40	47.74
Retail	e-Commerce	1 Million+	Manual Pack	Manual Pack of product. Conveyable- no weigh.	Computer	Walk	Units / Eaches	I	N/A	Y	74.07	82.30	90.53
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-1 SKU	Computer	Walk	Units / Eaches	I	N/A	Y	41.85	46.50	51.15
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-2 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	36.18	40.20	44.22
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-3 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	31.86	35.40	38.94
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-4 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	28.44	31.60	34.76
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-5 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	25.65	28.50	31.35
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-6 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	23.40	26.00	28.60
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line work to fill Top Combo orders-7 SKUs	Computer	Walk	Units / Eaches	I	N/A	Y	21.51	23.90	26.29
Retail	e-Commerce	1 Million+	Multi Line	Multi-Line Sort or pre pick process	Kiosk	Walk	Units / Eaches	I	N/A	Y	170.64	189.60	208.56



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Retail	e-Commerce	1 Million+	Multi Line	Multi-Line Match or Pick of orders after Sort.	Kiosk	Walk	Units / Eaches	I	N/A	Y	58.59	65.10	71.61
Retail	e-Commerce	1 Million+	Multi Line	Manual Pack of ML product. Conveyable-no weigh.	Computer	Walk	Units / Eaches	I	N/A	Y	47.07	52.30	57.53
Retail	e-Commerce	1 Million+	Shipping	Hand Stack product from Conveyor onto trailer.	Kiosk	Walk	Units / Eaches	I	N/A	Y	403.02	447.80	492.58
Retail	e-Commerce	1 Million+	Return Ship- ping	Loading of Return pallets onto trailers- includes ppwrk.	Kiosk	Fork Lift	Pallet	I	N/A	Y	6.75	7.50	8.25
Retail	e-Commerce	1 Million+	Returns Pal- letize	Non-Conveyable product returns product physically palletized.	Kiosk	Walk	Units / Eaches	T	2	Y	82.80	92.00	101.20
Retail	e-Commerce	1 Million+	Returns Pal- letize	Non-Conveyable product returns product palletized in system.	RF	Walk	Units / Eaches	I	N/A	Y	215.10	239.00	262.90
Retail	e-Commerce	1 Million+	Returns Pal- letize	Palletize from conveyor to Shelf locations, build cartons	RF	Walk	Units / Eaches	I	N/A	Y	73.80	82.00	90.20
Retail	e-Commerce	1 Million+	Returns Pal- letize	Palletize from convyor to Gaylord box on pallet(RTS items)	RF	Walk	Units / Eaches	I	N/A	Y	148.95	165.50	182.05
Retail	e-Commerce	1 Million+	Returns Pal- letize	Palletize from convyor to Carton Flow locations.	RF	Walk	Units / Eaches	I	N/A	Y	191.70	213.00	234.30
Retail	e-Commerce	1 Million+	Returns Pal- letize	Palletize from conveyor standard product.	RF	Walk	Units / Eaches	I	N/A	Y	148.32	164.80	181.28
Retail	e-Commerce	1 Million+	Returns De- Box	Person Preps returns product for 4 Pro- cessor lines.	kiosk	Walk	Units / Eaches	I	N/A	Y	150.12	166.80	183.48
Retail	e-Commerce	1 Million+	Returns Pro- cessing	Process Return item(s) and then place in tote or on conveyor.	kiosk	Walk	Units / Eaches	I	N/A	Y	34.20	38.00	41.80
Retail	e-Commerce	1 Million+	Returns Pro- cessing	Process Non-conveyable return item(s)	kiosk	Walk	Units / Eaches	I	N/A	Y	25.20	28.00	30.80
Retail	e-Commerce	1 Million+	Automation	Assemly Line to apply labels onto Ven- dor Small box ready to ship.	kiosk	Walk	Units / Eaches	T	2	Y	224.46	249.40	274.34
Retail	e-Commerce	1 Million+	Automation	Assemly Line to apply labels onto Ven- dor Medium box ready to ship.	kiosk	Walk	Units / Eaches	T	2	Y	251.82	279.80	307.78
Retail	e-Commerce	1 Million+	Automation	Assemly Line to apply labels onto Ven- dor Large box ready to ship.	kiosk	Walk	Units / Eaches	T	2 or 3	Y	155.16	172.40	189.64
Retail	e-Commerce	1 Million+	Automation	Assemly Line to apply labels onto Ven- dor inner box (need to unpack.)	kiosk	Walk	Units / Eaches	T	3	Y	221.85	246.50	271.15
Retail	e-Commerce	1 Million+	Automation	Assembly line to create Carton, insert 2 or more Small items, apply labels	kiosk	Walk	Units / Eaches	T	4	Y	86.04	95.60	105.16
Retail	e-Commerce	1 Million+	Automation	Assembly line to create Carton, insert 2 or more Medium items, apply labels	kiosk	Walk	Units / Eaches	T	4	Y	93.87	104.30	114.73
Retail	e-Commerce	1 Million+	Automation	Assembly line to create Carton, insert 2 or more Large items, apply labels	kiosk	Walk	Units / Eaches	T	4	Y	102.96	114.40	125.84
Retail	e-Commerce	1 Million+	RTS	Putaway RTS (PPA) product in Non con- veyable area (stack frames)	RF	DPJ/ Reach Truck	Pallet	I	N/A	Y	0.99	1.10	1.21



											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
Retail	e-Commerce	1 Million+	RTS	Putaway RTS (PPA) product in Non conveyable area (stack frames)	RF	DPJ/ Reach Truck	Units / Eaches	I	N/A	Y	25.47	28.30	31.13
Retail	e-Commerce	1 Million+	RTS	Putaway RTS (PPA) product on pallet to Pick or Reserve location	RF	Turret	Pallet	I	N/A	Y	6.30	7.00	7.70
Retail	e-Commerce	1 Million+	RTS	Scan of sorted item and associate with Pallet ID to enable Putaway	RF	Walk	Units / Eaches	I	N/A	Y	25.29	28.10	30.91
Retail	e-Commerce	1 Million+	RTS	Sort of RTS (PPA) items to bins for appropriate Zone for Putaway	Kiosk	Walk	Units / Eaches	I	N/A	Y	94.32	104.80	115.28
Retail	e-Commerce	1 Million+	RTS	Putaway mixed SKU pallet using Cherry Picker	RF	Cherry Picker	Units / Eaches	I	N/A	Y	84.69	94.10	103.51
Retail	e-Commerce	1 Million+	Hi-Bay	Move Pallet(s) from Hi-bay out feed to appropriate PnD lane.	RF	Dbl Pallet Jack	Pallet	I	N/A	Y	113.04	125.60	138.16
Retail	Retail Store	600,000	Receiving	Receive Inner Pack- Less than Case qty.	RF	Walk	Inner Pack(s)	I	N/A	Y	32.18	35.75	39.33
Retail	Retail Store	600,000	Receiving	Receive Full Pallet	RF	Fork Lift	Pallet	I	N/A	Y	28.26	31.40	34.54
Retail	Retail Store	600,000	Receiving	Receive Partial Pallet- Hand-stacking	RF	Forklift/Walk	Pallet	I	N/A	Y	22.05	24.50	26.95
Retail	Retail Store	600,000	Receiving	Receive Hy-Brid Pallet	RF	Fork Lift	Pallet	I	N/A	Y	24.93	27.70	30.47
Retail	Retail Store	600,000	Receiving	Receive Cooler Product	RF	Fork Lift	Pallet	I	N/A	Y	23.58	26.20	28.82
Retail	Retail Store	600,000	Receiving	Receive Freezer Product	RF	Fork Lift	Pallet	I	N/A	Y	28.89	32.10	35.31
Retail	Retail Store	600,000	Receiving	Sort of Mix Pallet and Place on Putaway Zone Pallet	RF	Walk	Cases	I	N/A	Y	100.80	112.00	123.20
Retail	Retail Store	600,000	Put To Store	RF Allocate PTS LPN	RF	Walk	Pallet	I	N/A	Y	108.54	120.60	132.66
Retail	Retail Store	600,000	Put To Store	Pick PTS Full Pallet	RF	Reach Truck	Pallet	I	N/A	Y	33.75	37.50	41.25
Retail	Retail Store	600,000	Put To Store	Anchor PTS Pallet	RF	Walk	Pallet	I	N/A	Y	40.32	44.80	49.28
Retail	Retail Store	600,000	Put To Store	Case Pick PTS product	RF	Pallet Jack	Cases	I	N/A	Y	152.19	169.10	186.01
Retail	Retail Store	600,000	Put To Store	PTS Close Container- Close LPN on RF	RF	Walk	Pallet	I	N/A	Y	9.99	11.10	12.21
Retail	Retail Store	600,000	Put To Store	Move PTS Pallet to Storage Location	RF	Reach Truck	Pallet	I	N/A	Y	25.74	28.60	31.46
Retail	Retail Store	600,000	Case Picking LW 20	Case Pick Cooler Product	RF	Pallet Jack	Cases	I	N/A	Y	205.20	228.00	250.80
Retail	Retail Store	600,000	Case Picking LW 20	Anchor Cooler Pallet	RF	Pallet Jack	Pallet	I	N/A	Y	157.14	174.60	192.06
Retail	Retail Store	600,000	Case Picking LW 25	Case Pick Freezer Product	RF	Pallet Jack	Cases	I	N/A	Y	228.33	253.70	279.07
Retail	Retail Store	600,000	Case Picking LW 25	Anchor Freezer Pallet	RF	Pallet Jack	Pallet	I	N/A	Y	87.75	97.50	107.25
Retail	Retail Store	600,000	LPN Disposition 20	RF Disposition of LPN Cooler	RF	Walk	Pallet	I	N/A	Y	32.49	36.10	39.71
Retail	Retail Store	600,000	LPN Disposition 25	RF Disposition of LPN Freezer	RF	Walk	Pallet	I	N/A	Y	32.49	36.10	39.71
Retail	Retail Store	600,000	Full LPN Pick 20	Pick Cooler Full Pallet	RF	Reach Truck	Pallet	I	N/A	Y	22.50	25.00	27.50





											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	
Retail	Retail Store	600,000	Full LPN Pick 20	RF Pack Cooler Full Pallet	RF	Reach Truck	Pallet	I	N/A	Y	49.32	54.80	60.28
Retail	Retail Store	600,000	Full LPN Pick 25	Pick Freezer Full Pallet	RF	Reach Truck	Pallet	I	N/A	Y	22.50	25.00	27.50
Retail	Retail Store	600,000	Full LPN Pick 25	RF Pack Freezer Full Pallet	RF	Reach Truck	Pallet	I	N/A	Y	49.32	54.80	60.28
Retail	Retail Store	600,000	Locate LPN 20	Move Pallet Cooler	RF	Reach Truck	Pallet	I	N/A	Y	29.97	33.30	36.63
Retail	Retail Store	600,000	Locate LPN 25	Move Pallet Freezer	RF	Reach Truck	Pallet	I	N/A	Y	25.74	28.60	31.46
Retail	Retail Store	600,000	Manual Re- plen 20	Force Inventory Move to Replenish Pick location in Cooler	RF	Reach Truck	Pallet	I	N/A	Y	21.60	24.00	26.40
Retail	Retail Store	600,000	Manual Re- plen 25	Force Inventory Move to Replenish Pick location in Freezer	RF	Reach Truck	Pallet	I	N/A	Y	19.26	21.40	23.54
Retail	Retail Store	600,000	Putaway Pick 20	Putaway of LPN to Cooler Pick Location-some hand stacking	RF	Reach Truck	Pallet	I	N/A	Y	15.84	17.60	19.36
Retail	Retail Store	600,000	Putaway Pick 25	Putaway of LPN to Freezer Pick Location-some hand stacking	RF	Reach Truck	Pallet	I	N/A	Y	17.46	19.40	21.34
Retail	Retail Store	600,000	Putaway Re- serve 20	Putaway of LPN to Cooler Rack Storage Location	RF	Reach Truck	Pallet	I	N/A	Y	18.63	20.70	22.77
Retail	Retail Store	600,000	Putaway Re- serve 25	Putaway of LPN to Freezer Rack Storage Location	RF	Reach Truck	Pallet	I	N/A	Y	16.92	18.80	20.68
Retail	Retail Store	600,000	Replenishment 20	Obtain of Pallet from Cooler Storage Location.	RF	Reach Truck	Pallet	I	N/A	Y	33.75	37.50	41.25
Retail	Retail Store	600,000	Replenishment 20	Place Pallet into Cooler Pick Location-some hand stacking	RF	Reach Truck	Pallet	I	N/A	Y	15.84	17.60	19.36
Retail	Retail Store	600,000	Plt Replenish- ment 25	Obtain of Pallet from Freezer Storage Location.	RF	Reach Truck	Pallet	I	N/A	Y	31.77	35.30	38.83
Retail	Retail Store	600,000	Plt Replenish- ment 25	Place Pallet into Freezer Pick Location-some hand stacking	RF	Reach Truck	Pallet	I	N/A	Y	14.58	16.20	17.82
Retail	Retail Store	600,000	Putaway 30	Putaway Pallet LW 30	RF	Reach Truck	Pallet	I	N/A	Y	12.87	14.30	15.73
Retail	Retail Store	600,000	Replenishment 30	Obtain Pallet from Storage location in LW 30	RF	Reach Truck	Pallet	I	N/A	Y	23.49	26.10	28.71
Retail	Retail Store	600,000	Replenishment 30	Place Pallet in Pick Location LW 30	RF	Reach Truck	Pallet	I	N/A	Y	18.63	20.70	22.77
Retail	Retail Store	600,000	Stocking	Stock Eaches into Small Pick Bins LW 30	RF	Walk	Units / Eaches	I	N/A	Y	99.00	110.00	
Retail	Retail Store	600,000	CP Replenish- ment	Obtain Cases from Reserve LW 30 loca- tion.	RF	Cherry Picker	Cases	I	N/A	Y	29.97	33.30	36.63
Retail	Retail Store	600,000	CP Replenish- ment	Place Cases to Drop Location- Feeds Stocking	RF	Cherry Picker	Cases	I	N/A	Y	29.97	33.30	36.63
Retail	Retail Store	600,000	Palletize 30	Associate Totes with Pallet LPN LW 30	RF	Walk	Pallet	I	N/A	Y	31.77	35.30	38.83
Retail	Retail Store	600,000	Anchor 30	Anchor LW 30 Pallet	RF	Walk	Pallet	I	N/A	Y	33.75	37.50	41.25
Retail	Retail Store	600,000	Consolidation	Combine Cases from one LPN to another LPN	RF	DPJ/SPJ/Fork Lift	Cases	I	N/A	Y	38.61	42.90	47.19



											Throughput		
Vertical Market	Sub-Market	Facility/ Area Size	Job Function	Description	Technology	MHE	Unit of Measure	Team (T) or Individual (I)	# People on Team	Includes AVG Travel (Y, N)	90.00%	100%	110%
Retail	Retail Store	600,000	Consolidation	Combine ALL Cases from one LPN to another LPN	RF	DPJ/SPJ/Fork Lift	Cases	I	N/A	Y	54.72	60.80	66.88
Retail	Retail Store	600,000	Loading 1030	Loading of LW 10+30 product onto trailers	RF	DPJ/SPJ/Fork Lift	Pallet	I	N/A	Y	21.60	24.00	26.40
Retail	Retail Store	600,000	Loading 2025	Loading of Cooler and Freezer Product.	RF	Pallet Jack	Pallet	I	N/A	Y	23.85	26.50	29.15
Retail	Retail Store	600,000	Loading PTS-LTL	Loading of PTS or LTL shipments	RF	DPJ/SPJ/Fork Lift	Pallet	I	N/A	Y	37.80	42.00	46.20
Retail	Retail Store	600,000	Cycle Count 10	Cycle Count LW 10 locations	RF	Cherry Picker	Locations	I	N/A	Y	49.05	54.50	59.95
Retail	Retail Store	600,000	Cycle Count 20	Cycle Count LW 20 locations	RF	Cherry Picker	Locations	I	N/A	Y	54.09	60.10	66.11
Retail	Retail Store	600,000	Cycle Count 25	Cycle Count LW 25 locations	RF	Cherry Picker	Locations	I	N/A	Y	45.00	50.00	55.00
Retail	Retail Store	600,000	Cycle Count 30	Cycle Count LW 30 locations	RF	Cherry Picker	Locations	I	N/A	Y	60.30	67.00	73.70
Retail	Retail Store	600,000	OB Audit 10	Audit Pallet contents of pallet from LW 10	RF	Walk	Pallet	I	N/A	Y	9.81	10.90	11.99
Retail	Retail Store	600,000	OB Audit 20	Audit Pallet contents of pallet from LW 20	RF	Walk	Pallet	I	N/A	Y	10.35	11.50	12.65
Retail	Retail Store	600,000	OB Audit 25	Audit Pallet contents of pallet from LW 25	RF	Walk	Pallet	I	N/A	Y	10.62	11.80	12.98
Retail	Retail Store	600,000	OB Audit 30	Audit Tote contents of pallet from LW 30	RF	Walk	Tote/Carton	I	N/A	Y	45.00	50.00	55.00
Wholesale	Periodicals	535,000	Inbound	Case Put Away	RF	Order Picker	Cases	I	N/A	N	54	60	66
Wholesale	Periodicals	535,000	Replenishment	Case Replenishment	RF	Order Picker	Cases	I	N/A	N	32.4	36	39.6
Wholesale	Periodicals	535,000	Picking	Case Picking	RF	Order Picker	Cases	I	N/A	N	74.7	83	91.3
Wholesale	Periodicals	535,000	Picking	Case Picking - Slow Moving	RF	Order Picker	Cases	I	N/A	N	81.9	91	100.1
Wholesale	Periodicals	535,000	Picking	Module Picking	RF	Conveyor	Units / Eaches	I	N/A	N	213.3	237	260.7
Wholesale	Periodicals	535,000	Picking	Floor Picking	RF	Cart	Units / Eaches	I	N/A	N	131.4	146	160.6



## ABOUT US

enVista is a leading global software solutions and consulting services firm enabling enterprise commerce for the world's leading manufacturers, distributors and omni-channel retailers. enVista uniquely delivers both physical and digital commerce solutions – optimizing supply chain efficiencies to drive cost savings, and unifying commerce to drive customer engagement and revenue.

These comprehensive capabilities, combined with enVista's market-leading Unified Commerce Platform, and the firm's ability to consult, implement and operate across supply chain, transportation, IT, enterprise business solutions and omni-channel commerce, allow mid-market and Fortune 100/5000 companies to leverage enVista as a trusted advisor across their enterprises.

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