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**OBJECTIVE:**

Manufacturing or Distribution Center Contract Industrial Engineering Consultant specializing in parts materials handling mechanization, direct labor control systems and product automation work cells.

**SUMMARY:**

- 200 productivity systems installed in warehouse, fabrication, assembly and work-in-process for 50 plus corporations in 30 years.
- Product knowledge in sheet metal, plastic, wood, aluminum, thermo-electric, electrical, mechanical and electro-mechanical
- Installed 100 production lines for over 1000 finished goods unique line balances
- Business acumen in marketing, industrial engineering and operations management.

**PROFESSIONAL EXPERIENCE:**

JD GRAY ASSOCIATES, Summit Hill, PA (1977 to Present)  
Contract Industrial Engineering Consultant

CLIENTS

Burroughs	Harowe Motors	Concurrent Computer	Voltronics	National Fiberstock
Warner Electric	General Electric	TE Technology	Lumex	Singer
Interdynamics	Isolette	Tellurex	Milton Ross	Westinghouse
US Steel	Child Master	International TE	Port- A – Crib	Maquila Twin Stroller
Union Switch	H & H Smith	Hydro-Temp	Clay Adams	<b>Allegheny Ludlum</b>
Automatic Switch	Perkin Elmer	<b>Newport News Ship</b>	Ballantine Labs	<b>ECR International</b>
Hecon	Strolee	Dorma	NAP Lighting	<b>Interline DC</b>
Melcor	Cadillac Rubber	Mexicali Stroller	Van Dyk Research	<b>Wegmans DC</b>
Audio Systems	Sprague Devices	Graco	Ohaus Scale	<b>Pepsi DC</b>
Syntrex	Xerox	Chariot	Brown Boveri	Anniston Army Depot
Circle F Industries	General Motors	Magnavox	Heinemann Electric	<b>Heatcraft Refrigeration</b>

MOST RECENT MANUFACTURING INSTALLATIONS

**Allegheny Ludlum Corporation** – Provided the industrial engineering design of a variable gain sharing incentive plan affecting ninety-four direct and indirect plant wide hourly factory workers in a coiled steel processing facility. Development of performance pay charts using Excel spread sheets based on historical indices. Written variable gain sharing incentive plan procedure. Liaison with payroll and data processing personnel. Assist with implementation of variable gain sharing incentive plan.

**ECR International** – Performed return-on-investment analysis for six divisions of major HVAC Corporation to determine consolidation feasibility. Industrial Engineering activity included time study, conceptual layout, conceptual equipment specification and costing, cost versus savings and report. Detailed implementation activity including snap back time study, line balancing, workstation / departmental Word drawing layouts and precision indexing rotary table equipment specification for two of the above six divisions. Direct labor savings of 50%.

**Heatcraft Refrigeration Corporation** – Assist in the transformation of a progressive gravity roller assembly conveyor for commercial air conditioner products to a paced assembly system utilizing two (approximately) fifty feet long by three feet wide indexing linear slider bed conveyors. Industrial Engineering activity included on-site time study of eight families (different build sequences) on six fan sizes; equipment specifications, forty-eight optimum and sixteen alternative line balances; work station layout, part bills of material, parts containerization, visual aids, task instructions and tooling; on-site crew training and system implementation. Direct labor savings of 30%.

DISTRIBUTION CENTER INSTALLATIONS

**Wegmans** – Industrial Engineered Standards in receiving – inspect and verification, automatic storage and retrieval system – pre pallet storage, automatic storage and retrieval system – pre stock pallet storage, stock pick location with pallet, pick and pack frozen food package on shipping pallet, shrink wrap pallet, shipping – load truck.

**Interline** – Work flow analysis in high and low volume pick areas, Optimum method development for manual pick from flow rack and for fork truck pick from pallet rack, Materials Handling on live storage and retrieval carousel specifications, Robotic specifications for carousel tote removal, Manual and automated layout alternatives, Cost justification for automated storage and retrieval system.

**Pepsi** – Industrial Engineered Standards in pallet repair – pick case – locate on pallet – place case on truck - damaged cans sortation.

**Newport News Naval Shipyard** – Four Consolidated Building Alternatives, Part and stock location identification for eight warehouse facilities, optimum layout development.

JD GRAY ASSOCIATES DIRECT LABOR CONTROL SYSTEMS

Development of unit cost expectation through time study, hourly accountability and shift output requirements. Optimization of workflow, personnel and receipt of material

<u>Activity/Conveyor Type</u>	<u>Number of Installations</u>	<u>Most Reputable Company</u>	<u>D/L Savings</u>	<u>Prominent Feature</u>
IE Standards and Methods	50	Singer	15%	Unit Cost Reduction
Layout	41	Ballantine	10%	Capacity Increase
Short-Interval- Scheduling	32	Magnavox	10%	Shortages Corrected
Labor Reporting	8	TE Tech	5%	Scrap Identification
Staffing	38	DORMA	10%	Cross-Trained Operators
Just-In-Time	8	Melcor	10%	Inventory Reduction
Industrial Incentives	13	Graco	15%	Team Effort

JD GRAY ASSOCIATES MATERIALS HANDLING

Plant wide, departmental and workstation. Conceptual design, equipment specification, system development and implementation

<u>Activity/Conveyor Type</u>	<u>Number of Installations</u>	<u>Most Reputable Company</u>	<u>D/L Savings</u>	<u>Prominent Feature</u>
ROI Analysis	37	Xerox	30%	Modular Phases
Paced Systems (Rotary, OH Mono, Slider Bed)	45	Warner	50%	Operator Performance Control
WIP Systems (Transporter)	32	Burroughs	25%	Barcode Tracking
Stockroom Systems (LSRS)	24	Union Switch	45%	I/E Robot

JD GRAY ASSOCIATES PRODUCT AUTOMATION

Work station, conceptual design, system development and implementation

<u>Activity/Conveyor Type</u>	<u>Number of Installations</u>	<u>Most Reputable Company</u>	<u>D/L Savings</u>	<u>Prominent Feature</u>
Bulk Hopper Feed, Vibratory Bowl Part Positioning and Robotic Placement	15	ITI	50%	P/P Robot

WORK EXPERIENCE BY INDUSTRY

<b>Productivity Area</b>	<b>7 years 5 Firms Steel</b>	<b>3 years 5 Firms Plastic/ Rubber</b>	<b>3 years 5 Firms Wood/ Paper</b>	<b>3 years 4 Firms Alum- inum</b>	<b>5 years 8 Firms Electric /T-E</b>	<b>9 years 24 Firms Electro- Mech</b>
<b>DIRECT LABOR CONTROLS</b>						
Manufacturing Audit (ROI analysis to install below listed disciplines)			X		X	X
Standards/ Work Measurement	X	X	X	X	X	X
Layout	X	X	X	X	X	X
S-I-S					X	X
Labor Reporting					X	
Staffing	X	X	X	X	X	X
JIT					X	
Incentives	X		X	X		
<b>MATERIALS HANDLING</b>						
Assembly and Fabrication Shop (Paced rotary, OH Mono, Slider bed)	X	X	X	X	X	X
W-I-P (Transporter, DGVS)					X	X
Stock/Warehouse (LSRS)						X
<b>AUTOMATION</b>						
Vibration Systems					X	X
Pick and Place robotic systems						X

JD GRAY ASSOCIATES BOOK

[“CLASSIC PRODUCTIVITY SYSTEMS for the assembly manufacturer...”](#)

WORK EXPERIENCE BACKGROUND

JM COOK ASSOCIATES, Washington Crossing, PA

Principal

Industrial Engineering and Materials Handling. Productivity consulting. Paced assembly systems. Plant layout / work flow. Factory management brain storming sessions.

HONEYWELL, Ft. Washington, PA.

General Foreman

Direct activity of four foremen. Oversee performance, TQM and attendance of one hundred employees.

Responsible for one million dollars of work-in-process. Rotary paced assembly conveyor coordinator in union shop between engineering, materials control, QA and labor relations.

JOHNSON AND JOHNSON, Raritan, NJ

Supervisor

Oversee performance, TQM and attendance of thirty employees. Responsible for three hundred thousand dollars of work-in-process.

STANDARD PRESSED STEEL, Flemington, NJ

Industrial Engineer -Time Study Technician

Responsible for the setting of plant-wide, incentive standards. Developed overhead monorail handling system whereby seventy- five operators within the machine shop, paint, sub and final assembly areas were on a single standard. Performed all classical industrial engineering functions.

EDUCATION: BS, Business Administration, Rider University in Lawrenceville, NJ