

How We Improve!

A better world through industrial management and engineering.

Dell Computer assembly-only plant under construction in North Carolina. Complete absence of vertical integration. Components purchased on consignment...

Ford River Rouge. One of the largest plant sites of all time, with more than 100,000 employees on 2000 acres. Begun in 1917 as World War I boat factory...

Ford Highland Park. First of many plants by Alfred Kahn. Innovative use of steel reinforced concrete with large window banks for ventilation and natural illumination...

Midvale Steel. Site of Frederick Taylor's early developments in time study and standard work. Principles of scientific management articulated here...

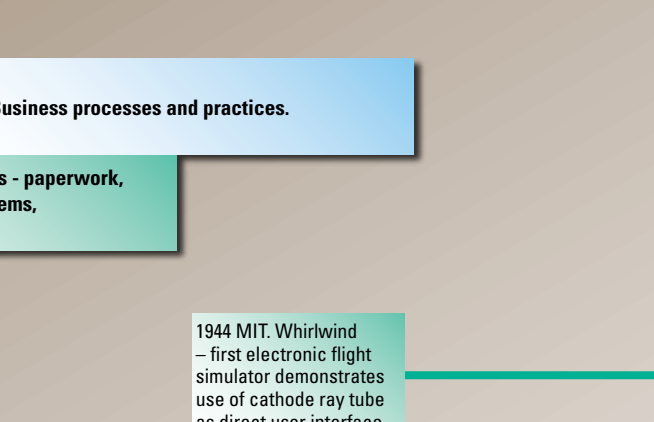
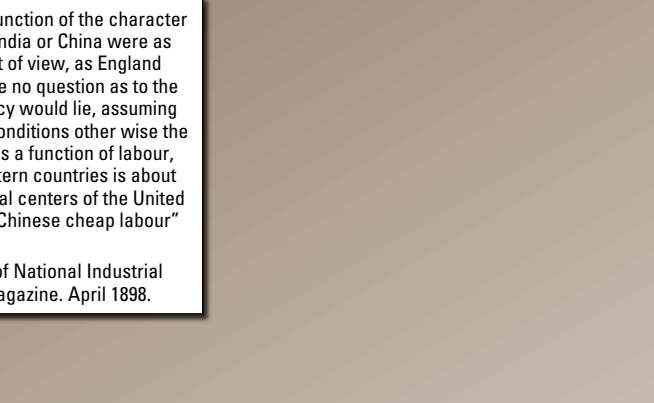
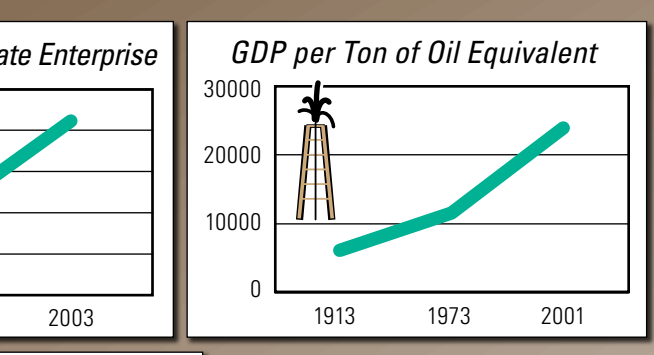
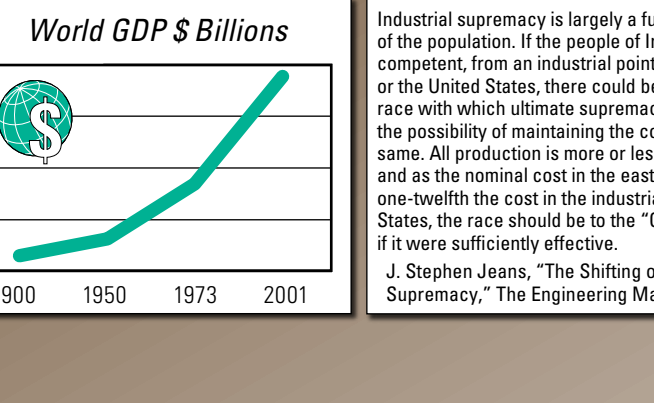
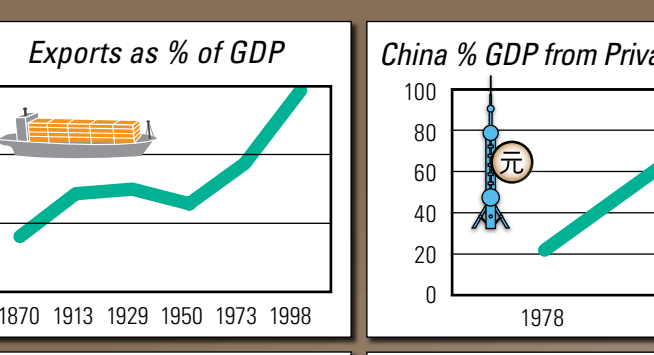
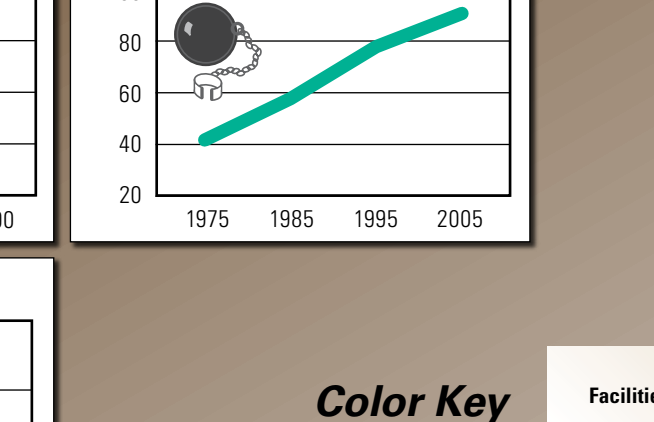
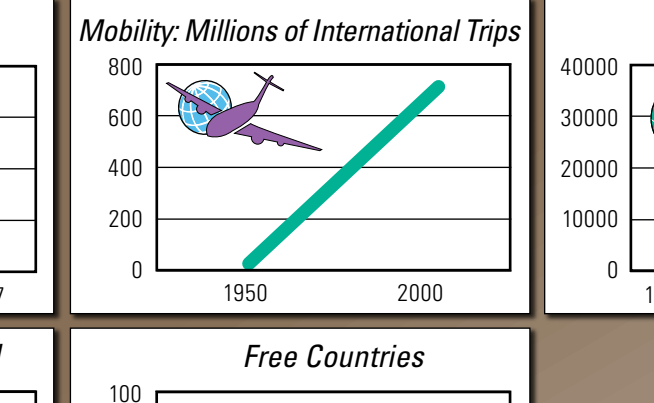
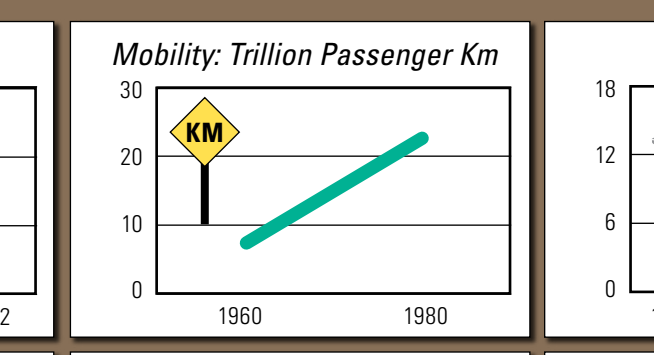
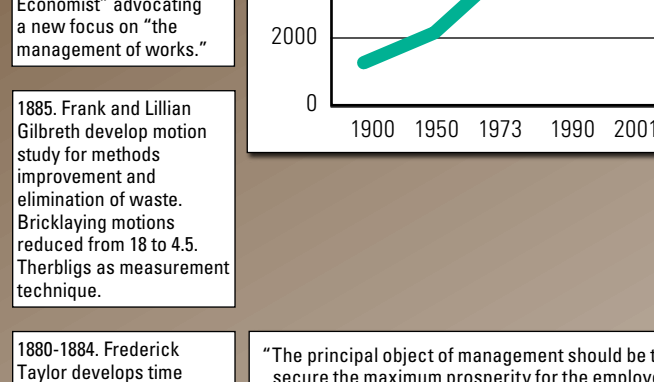
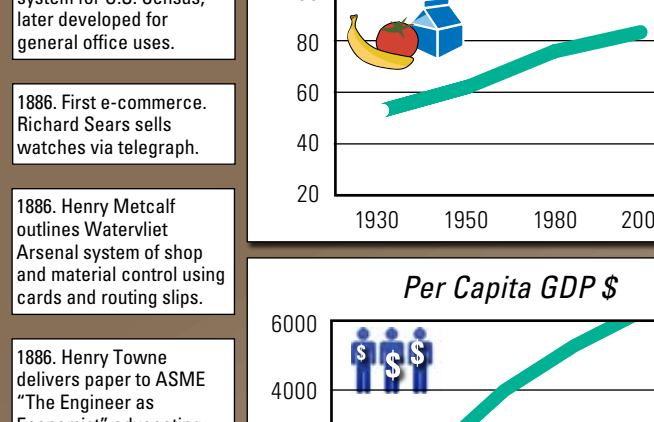
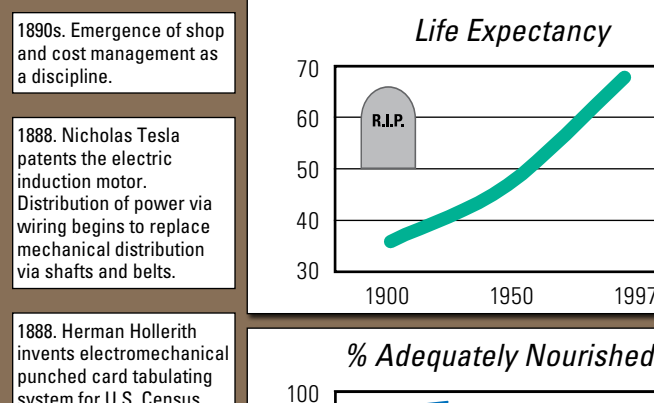
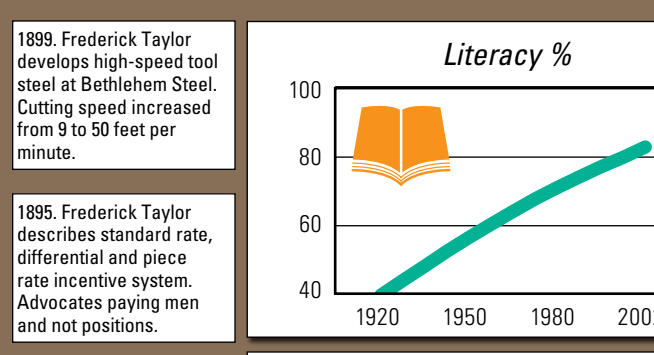
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Productivity: The principal object of management should be to secure the maximum prosperity for the employer, coupled with the maximum prosperity for each employee.

Taylorism: Detailed procedures and standards for cost accounting, inventory control, and time management.

Methods Engineering: 'Industry standard' wood pallets are developed for wartime logistics.

Fordism: U.S. for-profit sales grow to \$1 billion in 1950. Ford methods produce one plane per hour, up from one per day.

Toyota-ism: U.S. delivers timely delivery of parts and single-piece flow in Japan. Former Toyota manager Richard Schonberger lectures...

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Quality Programs: IBM launches Six Sigma program. Motorola's Six Sigma program is the first to be named.

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Systems Integration: Late 1970s, Xerox PARC advances and develops technologies for interactive computing and graphical user interfaces.

Logistics: 1971, Airline deregulation allows Federal Express and others to operate large aircraft.

Systems Engineering: Term 'management science' used to describe the application of mathematical programming and the use of computers to make better business decisions.

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How RMA Contributes!

To better industrial management and engineering.

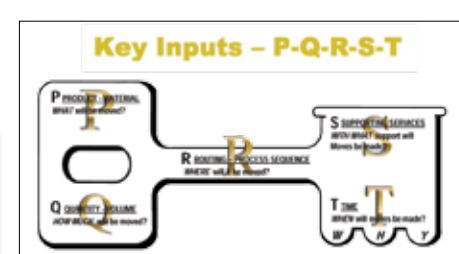
Facilities and operations from A to Z.

A partial list of facilities and operations planned and improved by RMA.


- Air conditioners
- Aircraft
- Aircraft maintenance
- Agricultural machinery
- Ammunition
- Antennas
- Apparel
- Apparel distribution
- Appliances
- Automobile assembly
- Auto parts manufacturing
- Auto parts distribution
- Bakeries
- Banks
- Beverages
- Bolts
- Brass mills
- Building materials
- Buses
- Candies
- Chemicals
- Cell phones
- Charcoal
- Coatings
- Computers
- Compact disks
- Consumer electronics
- Construction equipment
- Corporate headquarters
- Courthouses
- Cranes
- Die casting
- Disk drives
- Direct mail distribution
- Elastomers
- Electrical connectors
- Electronic components
- Electronic instruments
- Embassies
- Engines
- Engineering offices
- Fasteners
- Feed mills
- Flour mills
- Foods
- Food service equipment
- Forges
- Foundries
- Fresh produce
- Furniture
- Galvanizing
- Gaskets
- Glassware
- Gears
- Golf cars
- Greeting cards
- Hand tools
- Helicopters
- Hosiery
- Hunting scents
- Industrial trucks
- Insurance offices
- Irrigation equipment
- Jewelry
- Kitchen cabinetry
- Laboratory equipment
- Lumber
- Machine tools
- Material handling equipment
- Medical devices and equipment
- Metal production and forming
- Mining equipment
- Military vehicles
- Mobile homes
- Molded plastics
- Motorcycles
- Motors
- Motor Homes
- Nickel mining
- Nuclear submarines
- Nuclear weapons
- Office furniture
- Off-shore drilling platforms
- Packaging
- Paper-making machinery
- Peat load
- Pharmaceuticals
- Pipe mills
- Plastics
- Plating
- Printers
- Printed circuit boards
- Printing presses
- Power generation, distribution and services
- Powdered metallurgy
- Printing and publishing
- Plywood
- Pumps
- Quarries
- Ready-to-eat salads
- Retail distribution
- Retail stores
- Rubber products
- Semiconductors
- Sheet metal fabrication
- Shipbuilding
- Steel mills
- Store fixtures
- Structural steel fabrication
- Telecommunications equipment
- Technology centers
- Facilities
- Tractors
- Transformers
- Truck assembly
- Truck parts
- Utilities
- Valves
- Vending machines
- Video tape
- Water towers
- Wire mills
- Wire harnesses
- Xerographic centers (corporate campus printing facilities)
- Yarn
- Zinc mining

Family of Systematic Planning Methods

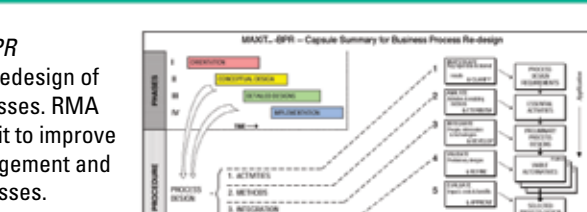
1950s. RMA's ease-of-recall teaching methods and highly-refined training materials are engineered to deliver a new idea every 8 minutes!



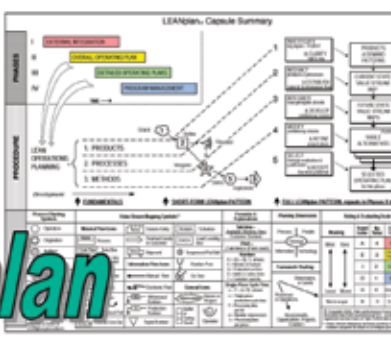
1963 to 1970. RMA-developed color codes become international standard for layout planning and are later expanded to cover industrial facilities planning.




1993. MAXIT-BPR introduced for redesign of business processes. RMA quickly applies it to improve materials management and logistical processes.



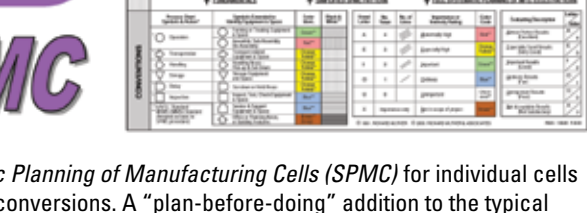
1992. RMA introduces LEANplan for plant-wide and supply chain value-stream mapping, and implementation of the Toyota Production System.



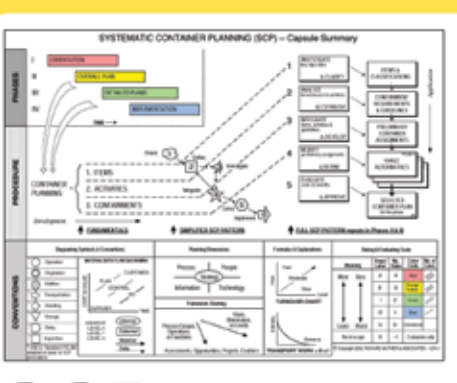
1992. High Performance Concepts, Inc., parent company of RMA, introduces MAXIT-ISI, a systematic method for information systems planning and integration.



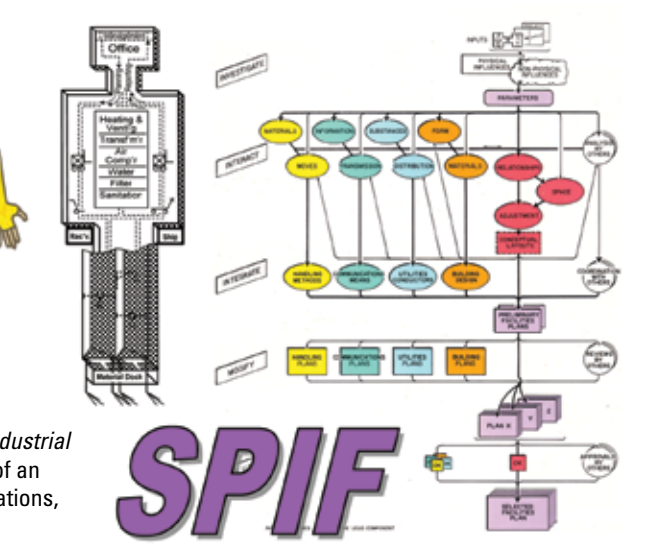
1990. Systematic Planning of Manufacturing Cells (SPMC) for individual cells and plant-wide conversions. A "plan-before-doing" addition to the typical Kaizen event! Thousands trained worldwide. Developed with the Institute of High-Performance Planners (IHPP).



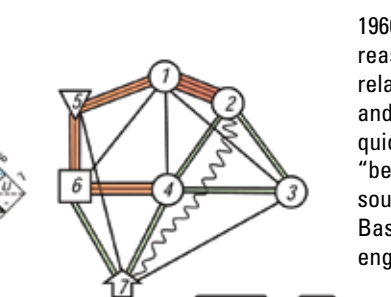
2002. RMA develops Systematic Container Planning (SCP) for inbound logistical systems and returnable containers.



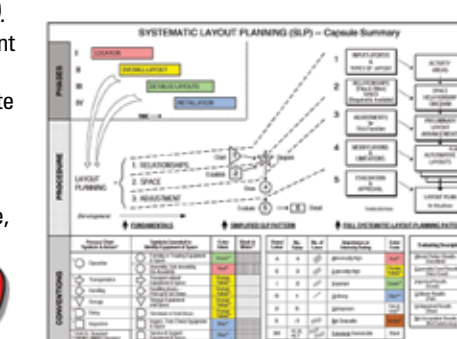
1975 to 1980. RMA's Systematic Planning of Industrial Facilities (SPIF) plans the complete anatomy of an industrial facility: layout, handling, communications, utilities, and building.



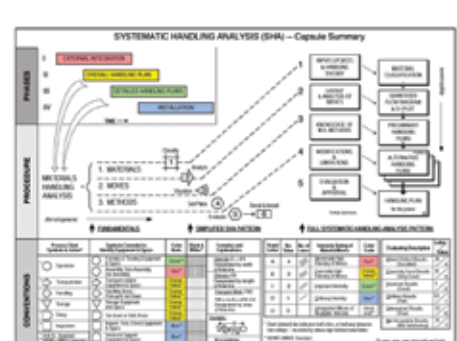
1960. RMA's rated-and-reasoned relationship charting and diagramming quickly recognized as "best practice" for sound layout planning. Basic to all industrial engineering education.



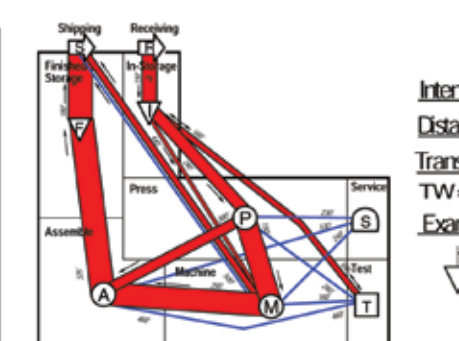
1956 to 1960. RMA develops Systematic Layout Planning (SLP). Landmark development provides the first universal and complete "system" of planning, applicable to any type of layout—factory, warehouse, lab, office, retail store, hospital...



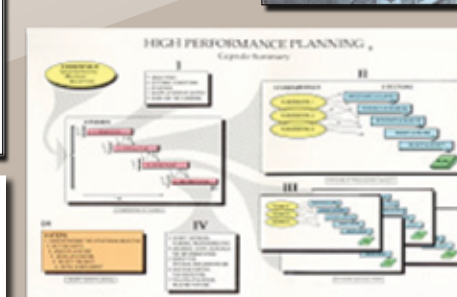
1961 to 1963. RMA develops Systematic Handling Analysis (SHA) with affiliate Knut Hagena. SHA brings structural analysis and planning to traditionally "cookbook" solutions and reliance on expert "know-how".



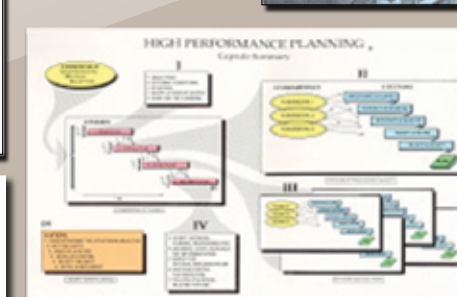
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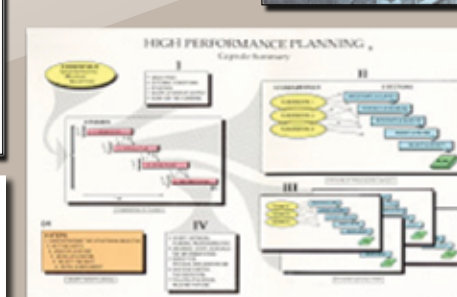
1995 to 2005. Richard Muther continues to refine the HPP model, working through IHPP to improve the performance of anyone who makes plans.



1988. Richard Muther publishes first-ever generalized model for systematic planning of all kinds. Distilled from 30 years of developing specific methods at RMA.



1988. Muther creates the High-Performance Planning model: 3 essentials and 3 fundamentals; 4 phases; 5-section planning pattern; or 6-steps of short-form planning lead to high performance. HPP model becomes basis for all future methods developed and used by RMA.



How We Improve!

100 Years of Industrial Management and Engineering

A Timeline by Richard Muther & Associates

Industrial engineering is the constant search for improvements—in facilities and operations, in logistics, information systems, and in business practices. As seekers of better methods and ways of working, we are also keenly interested in how improvements are made. Perhaps best known for measuring performance, we also seek to quantify results. To mark its 50th year in the business of improvement, Richard Muther & Associates (RMA) created a timeline to capture actual improvements in industry, methods of improving, and their results in terms of global human conditions. Ultimately, that is why we improve!

The 50-year history of RMA coincides with perhaps the most dramatic period of improvement in human history. World and per capita output are rising. So are life expectancy and nutrition, enabled by improved production and distribution of food, medicine, and hygiene. Literacy rises because industrialization and productivity eventually enable children to trade the workplace for school. Industrial improvement brings nations and cultures together through increased trade, mobility and travel. By exposing all to the fruits of better management and engineering, industrial improvement leads to greater personal and political freedom, and to private ownership of capital. Thus, striving for greater output

leads mankind beyond despotism and commissars, and increasingly to freedom and private enterprise.

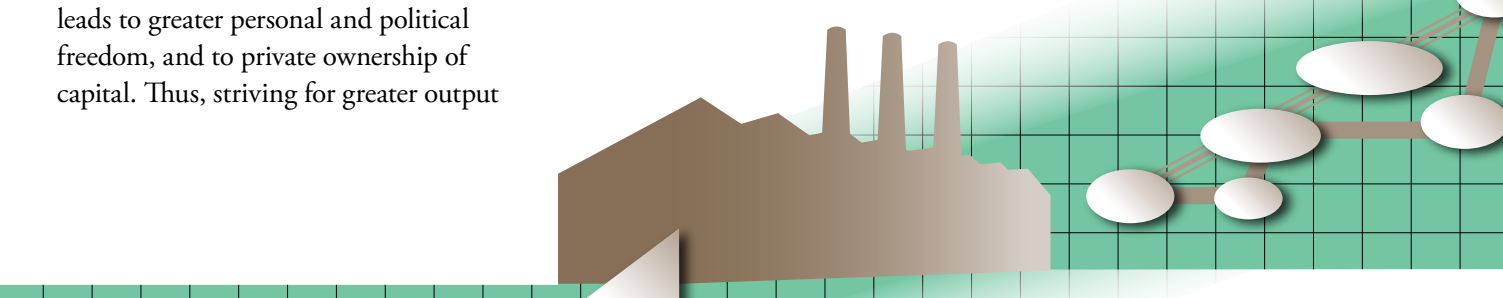
Upon inspection, the origins of most late 20th century improvements are found in the first half of the century or even before. Thus, to provide context for the past 50 years, our timeline spans 100 years. Beginning with Taylorism, then Fordism and the early focus on improved factory productivity, industrial engineering matured in the 1930s with a new focus on the improvement process itself. In the 1950s, computers brought us better materials management and later, many other improvements in business processes. Enter better transportation in the 1960s and 70s, and we observe a long period of improved logistics—beyond the walls of the factory and warehouse. Along the way, some companies have been forced to re-learn the basics from Japan, or to reestablish product and process quality. But industry leaders keep moving, leveraging factory excellence and logistical improvements into high performance supply chains with integrated information systems. Once achieved, new business processes and even new business models become

possible, allowing still higher productivity and utilization of assets.

In the early 20th century, productivity and prosperity were found in factory excellence. In the 21st century, excellent factories are still the bedrock of industrial performance. But productivity, prosperity, and even survival will depend increasingly upon excellence in supply chain management.


This brings us to our role as industrial engineers. Most of the notable improvements of the 20th century were not made by industrial engineers. They were made by inventors, entrepreneurs, managers, chemists, mechanical and electrical engineers, researchers, software developers, computer scientists, supervisors, workers... the role of industrial engineers has been to apply, adapt and improve. Our contribution has been to integrate available improvements, speed up their adoption, and assure their success. Performing these tasks better and faster is how we improve.

[View the Timeline](#) →

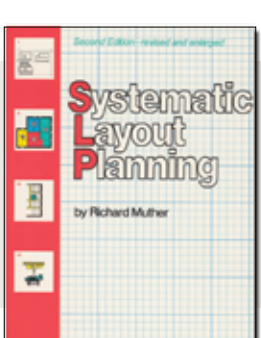


Technical Publications & Training


1956. Practical Plant Layout by Richard Muther generates immediate interest in RMA methods and training, and is translated into several languages.



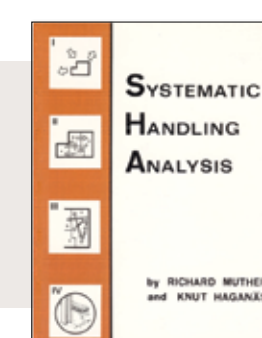
1961. Muther's landmark text Systematic Layout Planning, fully documents SLP complete with tabular Working Forms—forefathers of today's spreadsheet templates! Subsequently translated into six languages.



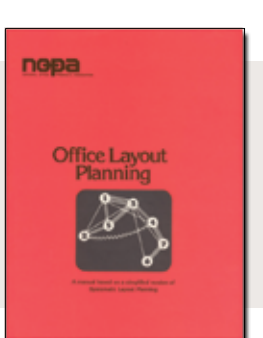
1962. Muther and Wheeler's short-form of SLP for small, every-day projects is the most popular publication ever on the subject of layout planning. Over 500,000 printed in 13 languages. Still in wide use today.



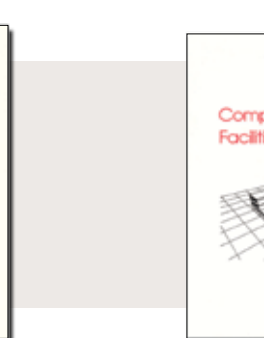
1962. Muther and Hagena's complete Systematic Handling Analysis. Using the same structure as SLP, SHA is a comprehensive companion method for planning material handling systems. Subsequently translated into five languages.



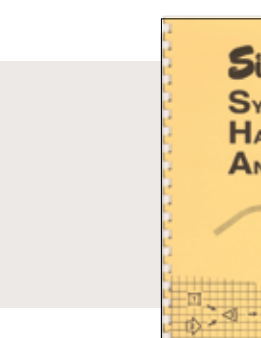
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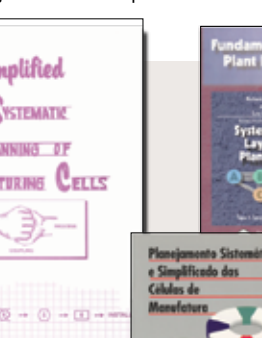
1977. Adapted from Simplified SLP Office Layout Planning is widely taught and used to plan America's conversion from walled and bull-pen offices to open plans and modular furniture. In the late 1970s, RMA assists all of the leading furniture manufacturers.



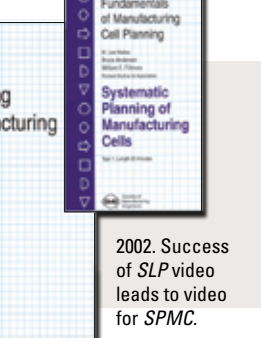
1980. SPIF Vols. I & II embody 25 years of RMA experience and cover integrated planning for all five components of an industrial facility. Japan and China recognize immediate value from the texts and complete translations within two years.



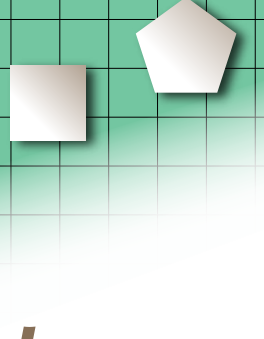
1984. Computer-Aided Facilities Planning is landmark text on use of information technology. RMA methods are embodied in leading software. We advise leading software suppliers on facilities planning applications.




1994. Short-form of SHA. Together with Simplified SLP becomes the basis for a "team effectiveness" series aimed at supervisors and improvement planning teams.




1996. Simplified SPMC for individual work cells joins the "team effectiveness" series and generates global interest.



2002. A complete text on the nuts and bolts of cellular manufacturing, with companion video and training materials from the Society of Manufacturing Engineers.



2002. Success of SLP video leads to video for SPMC.



How RMA Contributes...

50 Years of Service to Industry

Richard Muther & Associates (RMA) is a consulting-training-research firm operating in the broad field of industrial management and engineering. Founded in 1956, RMA's early emphasis was on factory and warehouse operations, expanding later to various aspects of supply chain management. Our consulting work has taken us all over the world, to hundreds of factories, warehouses, and distribution facilities in many industries. RMA has also helped to plan corporate offices, laboratories, and technology centers.

RMA consults on the principle of "helping clients help themselves." During our projects, clients master our approaches for future use. To this end, we deliver and are widely-known for a set of highly systematic planning methods.

Beginning with Systematic Layout Planning (SLP) in the 1950s, and continuing to the present, we have developed a family of commonly structured methods for all aspects of industrial facilities and operations planning. These are supported with texts and training manuals, and certification in our most popular techniques. Recent procedures for information systems planning and business process design come to us through High Performance Concepts Inc., our parent company since 1992.

We publish our developments and distribute working forms and spreadsheets to apply them. We also train others in their use through public and in-plant workshops. Since the 1980s, several RMA procedures have provided the thoughtware behind the most popular software in our field.

In addition to our own texts, RMA procedures have been mainstays in leading handbooks for half a century. And they are featured in virtually all textbooks on industrial engineering. Translated into more than ten languages, RMA methods are taught in universities and technical schools throughout the world. In addition to the 10,000 people that we have directly trained in our own programs, perhaps 500,000 to one million more have been trained by others—notable reach for an intentionally-small firm with a self-imposed limit of 10 professionals. As a result, our methods have become de facto, global standards.

International recognition and demand have taken us to some 30 countries.

Our international reputation and professional contributions result from the vision, creativity, and perseverance of our founder, Richard Muther. In recognition of his contributions to industrial management and to the science of planning, Mr. Muther has received several international awards, including our profession's highest honor, the Gilbreth Medal.

While the world and our profession continue to change, we continue to contribute in the same successful manner first established 50 years ago—getting results for our clients through mature, qualified consultants, and the application of systematic planning methods.

For more information about RMA, visit our Web site: <http://www.hpinc.com/rma.html> Or contact us at (770) 859-0161.

"Helping clients help themselves."

International Consulting & Training

RMA was founded in 1956 in Kansas City, Missouri and has been helping clients throughout the U.S. and the world ever since. The flags shown here represent RMA's international work.

1960. The Japan Management Association (JMA) adopts RMA methods to plan for rapid industrial expansion. During the growth period of the 1960's and 70's, RMA trains hundreds of Japanese engineers who apply our methods in many sectors. We assist in the automotive industry and host Japanese missions to the United States to study material handling methods.

1969. Continued global interest in RMA methods spurs formation of Muther International. Eventually, we have affiliates on five continents.

1977. RMA teams with affiliate Knut Hagena on a Swedish government contract to train Communist block and third-world engineers in facilities planning.

1981. One year after its initial publication, JMA publishes both volumes of RMA's Systematic Planning of Industrial Facilities (SPIF), translated by affiliate Hiroshi Ito.

1982. China sees value in SPIF for desperately needed industrial modernization. The government translates and transcribes all 800 pages into a primitive, handwritten edition. Figures are blue-line prints pasted by hand.

1982. Chinese Ministry of Machinery retains Richard Muther for three months to train planner-consultants from all over China. Courses in SLP, SHA and SPIF are followed by laboratory projects in more than a dozen plants. Graduates set up consulting offices throughout China to help plan its transition from primitive and heavy industry to mass production.

1987, 1988 and 1991. China finally sees high-quality translations of SLP, SHA and SPIF which spreads the use of RMA's systematic planning methods.

1992. Richard Muther helps a Chinese team apply our SPIF method to an early model zone in the new Pudong industrial region. Team members use RMA methods to plan subsequent zones in this massive urban and industrial development east of Shanghai.

1994. Richard Muther keynotes the International Conference on Advanced Techniques & Equipment for Materials Handling (ATMEH) in Shanghai.

1996. RMA returns to Pudong to help plan one of the first U.S. automotive joint-venture plants in China.

1997. The South Korean government retains RMA to teach small and medium-sized companies how to set up effective cells and lean manufacturing.

2006. SLP, SHA and SPMC training courses are translated by Hakan Bitiner of Turkish affiliate IMECO. RMA methods have great appeal in Turkey's burgeoning industrial economy.

2005. RMA trains Russian developers in world-class warehouse design. Russia's rapidly growing consumer economy is starved for distribution facilities.

← View Our History