

## FEATURE ARTICLE

# Value Analysis/Value Engineering: The Forgotten Lean Technique

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“Don't look now, but an old discipline value analysis is on the comeback trail,” trumpets the introduction of a *Purchasing Magazine* article, “Value Analysis Makes a Comeback”. Value Analysis and Value Engineering are returning with a vengeance in the battle to bring jobs back to America. Combined with the lean technologies of Six Sigma, Lean Manufacturing and Automation, Value Engineering completes a suite of tools dubbed Extreme Lean™ by Dave Dixon of Technical Change Associates, Inc., a lean management consulting firm based in Ogden, Utah. *Industry Week's* annual survey of US manufacturers included a vital bottom-line statistic. The dominant concerns of manufacturing CEOs are 1) achieving lower costs, and 2) warding off foreign competition. In this context, “foreign competition” includes US competitors who source products offshore. Six Sigma and Lean Manufacturing are not enough to turn this around. This article explores how value analysis/value engineering enhances the Lean-Six Sigma

Methodologies and how the concept of “Extreme Lean™” can help stem the tide of lost manufacturing jobs in the U.S.

In today's hypercompetitive world of manufacturing, companies in the US are finding it increasingly difficult to compete with “off-shore” manufacturing firms in countries such as Taiwan, the Philippines, Korea, Mexico, and China. Between 2000 and 2003, over 2.7 million manufacturing jobs left the US to foreign competition, according to Department of Labor statistics. Consequently, the US manufacturing base has been rapidly eroding since the late 1990s. The methodology that has been coined “Extreme Lean™” by Dave Dixon, President of Technical Change Associates, Inc. of Ogden, Utah, is an extremely effective suite of tools that promises to slow the exporting of our products and jobs to other countries and even bring some of these jobs back to the U.S. Value analysis/value



engineering is an integral part of this powerful suite of tools.

Dixon believes companies can remain competitive. "But, to do so will require far more aggressive cost reductions than have been collectively mustered to date. The problem is that Lean and Six Sigma, at their best, can not provide the cost reductions necessary to keep American manufacturers competitive in global markets," according to Dixon. Being mostly reactive in nature, these tools are usually employed to solve existing problems that may have been plaguing the company for years.

Dixon states that, "First, we have to acknowledge that, in the end, it's all about cost." In more and more industries, excellent quality, on-time delivery, and superior customer service are simply requirements to play. Companies should and will always try to use these factors to set themselves apart from lower cost competitors, but quality, delivery, and service will only go so far in offsetting higher prices.

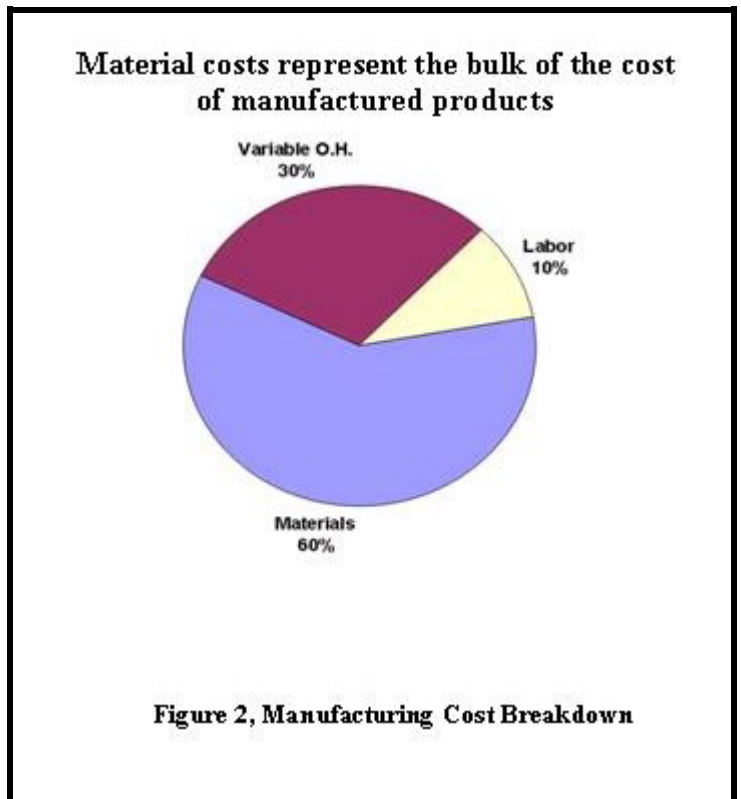
We have to focus on where the cost is. Because design features drive material costs, a comprehensive cost reduction effort must attack the material cost embedded in the product design. Value engineering is a powerful and effective tool for attacking material cost embedded in a product's design as well as helping to reduce variable overhead costs. Additionally, it is proactive in nature in that it can be employed in the design phase of processes and products that will aid in avoiding serious problems later in production.

Lean and Six Sigma address the labor and variable overhead segments of the cost structure, but have little or no impact on material cost, the largest segment of the pie. For the most part, design features of the product drive material costs, and the Lean/Six Sigma methodology offers little in the way of a tool kit for paring these costs. Supply chain development programs will reduce price (and material cost) to a degree, but these efforts will always be limited by the underlying characteristics of the product design.

## **VALUE ANALYSIS/VALUE ENGINEERING: THE FORGOTTEN LEAN TECHNIQUE**

Value analysis/value engineering (VA/VE), by its very nature, is an intensive, interdisciplinary problem-solving activity that focuses on improving the value of the functions that are required to accomplish the goal or objective of any product, process, service, or organization. Its goal is the systematic application of recognized techniques that identify the functions of the product or service, establish the worth of those functions, and provide only the necessary functions to meet the required performance at the lowest overall cost. VA/VE's focus on accomplishing the required functions at the lowest overall cost sets it apart from the Lean and Six Sigma methodologies. VA/VE eliminates, or minimizes wasted material, time, and product cost, which improves value to the customer. This establishes VA/VE as a Lean technique that has been forgotten, or overlooked by companies striving to implement Lean and Six Sigma.

Lean manufacturing views the cause of poor performance as wasteful activity. Lean is a time-based strategy and uses a narrow definition of waste (non-value-adding work) as any task or activity that



does not produce value from the perspective of the end customer. Increased competitive advantage comes from assuring every task is focused on rapid transformation of raw materials into finished product.

Both VAVE and Lean rely extensively on transforming operations into alternative forms of visual information. In Lean, a Kaizen team will consider using a variety of visual analytical tools to identify waste. Spaghetti diagrams, flow diagrams, bar charts, standard work sheets, and production control boards, are all part of the Lean analytical lexicon. VE uses function analysis and FAST diagramming to describe the functional relationship of the product, process, or service and identify functions where the team should focus on improving value. Creating by function is the high-octane fuel generating VE performance and success.

VAVE relies on a rigorous interdisciplinary approach to problem solving. VAVE uses a systems approach to problem identification and solution. VAVE is function oriented and promotes a “clean-sheet” approach that supports innovative solutions. Creativity is a key component to the VAVE problem solving activities that promotes “breakthrough thinking.” VAVE also uses a structured “job plan” that promotes consistency in application and helps assure results. Increased competitive advantage comes from the identification of innovative ways to accomplish key functions at a lower cost with improved quality and reliability. The function analysis systems technique (FAST) promotes a synergistic approach to problem solving that develops solutions far beyond that which only an individual could produce. These attributes combine to produce some superior advantages to problem solving when VAVE is employed.

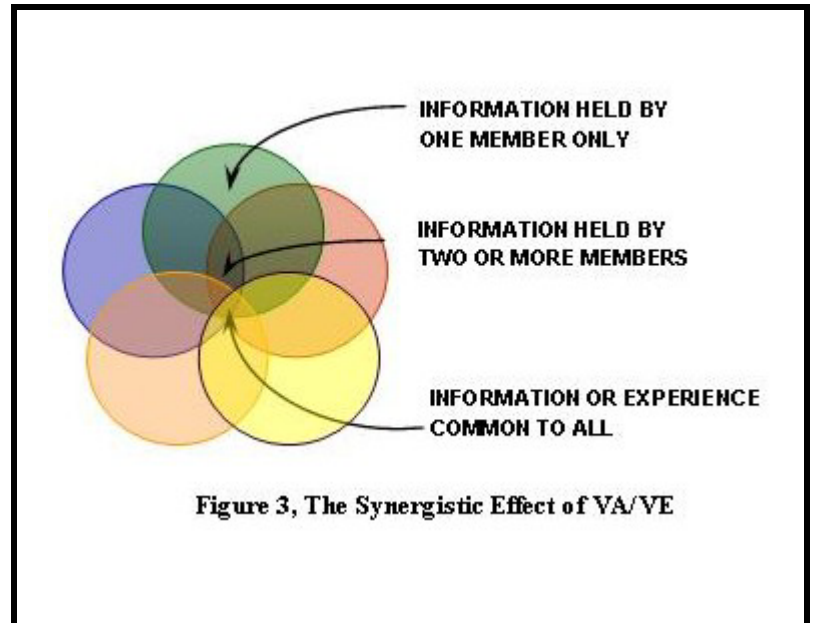


Figure 3, The Synergistic Effect of VAVE

## CONCLUSIONS

Combining the methodologies of Lean, Six Sigma, and VAVE along with the eventual implementation of automation, if applied properly, will provide the answer to the causes of poor performance and high costs in our manufacturing industries that could stem the tide of outsourcing jobs to off-shore manufacturing firms. Separately, these tools only provide part of the answer to lower overall cost and improved quality. Together, they provide an extremely powerful suite of tools to improve productivity, lower cost, improve quality, and shorten the time-to-market. VAVE is a powerful design methodology that harnesses existing organizational creativity and knowledge resulting in superior innovative products with unique customer benefits. Together, Lean, Six Sigma, and VAVE increase customer value by optimizing costs, quality and delivery.

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## **A New Value Engineering Regulation for the Corps!**

As many of you know, the U.S. Army Corps of Engineers has been using value engineering on their capital projects since 1964. They represent one of the largest users of the value methodology in the world and have one of the longest track records (over 40 years). Also, as many of you may remember, a small group including Laurie Dennis, Russ Brzezinski, Mike Holt, and myself met with General Robert Flowers, then Commander of the Corps, at the Annual SAVE International Conference in Denver, Colorado in 2002. In that meeting, we discussed the fact that the Corps has historically been represented as a world leader in VE. However, many aspects of the Corps Value Program over the last decade have not reflected that world leader image. General Flowers took this message to heart and promised to reinvigorate the Corps Value Program.

Throughout the following year, the General made a tour around the U.S. speaking to the Corps personnel within the District offices. In these meetings he always brought up the need to make greater use of value engineering. Concurrent with these meetings, his staff were working on drafting a new regulation to provide direction and expectations for the Value Program. That draft regulation was put out for use and review as an Engineering Circular (EC11-1-114). After two years of review and comment, the EC has been officially transformed to a new [Engineering Regulation \(ER11-1-321\)](#). This new ER can be found on the SAVE website ([http://www.value-eng.org/benefits\\_government.php](http://www.value-eng.org/benefits_government.php)).

The ER requires the development of a value management plan as part of the Project Management Plan that has to be prepared and approved for each project. The Corps Project Management Business Plan (PMBP) further requires that each project have a Project Development Team (PDT) and that the Value Engineering Officer (VEO) is a part of that team. In the past, the responsibility for executing value engineering studies rested on the VEO. Now the responsibility is on the project manager.

Here are a few of the highlights:

- Civil works projects (water resources type projects) require VE on all projects over \$2 million. With sufficient justification, the VE study can be waived. However, on projects exceeding \$10 million, no waivers will be granted.
- On civil works projects between \$2 million and \$10 million a VE study should be conducted no later than 35% design. Studies earlier in the project development are encouraged.
- On civil works projects greater than \$10 million or any project design feature in excess of \$10 million will use value engineering during the feasibility phase prior to final selection of alternatives and again prior to 35% design completion.
- For military projects with an estimated construction cost of \$2 million or greater, a value engineering study must be conducted unless waived by the District Commander. The studies can be conducted at any phase of project development including on planning charrettes documents, design charrettes documents, or subsequent phases of design with the objective to identify changes earlier to reduce reprogramming efforts.

- A value based planning or design charrettes can be conducted to influence planning direction; however, this will not fulfill the requirement for VE.
- Value engineering is required on design-build procurements in accordance with the same criteria as design-bid-build procurements. In general, VE is to be conducted in the planning phases and during preparation of the draft request for proposals (RFP) prior to publishing for review.
- All rejected VE proposals or groups of proposals that represent \$1 million in savings or more must have District Commander approval and be supported with independent technical review.
- The project manager must certify that value engineering has been incorporated into the project development in accordance with the VM plan portion of the PMP. This certification must be signed by the project manager and accompany the Biddability, Constructability, Operability, and Environmental (BCOE) document. This document must be approved before the project can be awarded for construction.

While this regulation may not be perfect, it provides significantly more substance and usability than the past regulation that provided too many loop holes for the project managers that did not want to do VE on their projects. Moreover, this document represents a basic function of SAVE International to promote the growth and use of the value methodology. This was initiated as a direct result of the meeting between General Flowers and SAVE International executives. It was created and championed by dedicated Corps personnel, who are also members of SAVE.

It is SAVE International's mission to influence greater use of the value methodology. I encourage each and every one of you to look for other opportunities where SAVE could influence further growth.

On another note, I want to remind you to make your [reservations](#) NOW for San Diego. We have another great conference in the making. We are planning for a record attendance which will heighten the experience. I would really like to see you there.

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## VICE PRESIDENT'S CORNER

*Rodney H. Curtis, CVS, PE  
Vice President - Communications*

While the more formal Vice President's column is taking a little breather, I'd like to let you know some of the things we are doing to enhance our communication products and services.

**Global Reach:** We are planning to "span the globe" for news of value by adding "reporters" or "stringers" to our team. The pay will be modest (zero!), but our new partners will have the satisfaction of helping in the dissemination of important value management events to members and other interested people around the world. Let us know if you are interested.

**"Intranet":** Some time ago, I used the home page of my employer's intranet as an example of some graphics possibilities. Some one in review mode made the comment that *InterActions* was a newsletter, not an intranet. My first reaction was that, of course, that was correct; but then I got to thinking. Why not an "intranet"? We are gradually establishing more regular "columns" in the newsletter. But, instead of containing only the "news" of that particular month—and nothing on months when there is no news—we want also to include permanent or semi-permanent information

that we perceive will be of continuing interest. In many cases, the "trails" thus created will lead to our website, or possibly some other website. Now that *InterActions* is again a members-only resource, it could be seen as serving an "intranet" function. More on this as it develops. What do you think? Why not use our [Quick Response](#) link to let me know?

**Website:** We are going to engage an independent web design firm with a modest contract to give us some ideas as to how we can enhance the site. Call it a "continuous improvement" opportunity. That input will be combined with the results of a reader's survey we conducted some time back, but did not follow up on! Again, your ideas solicited!

Help! The VP Communications Team could use your help in numerous areas, none of which would require you to quit your job or give up your family. Interested? Let us know!

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## LETTER TO THE EDITOR

### Kudos to Al-Yousefi, Gulf Chapter Past President

I have known Abdulaziz Al-Yousefi since the fall of 1989. I was on a one year assignment to lead the VE Department for the Ministry of Defense and Aviation for Saudi Arabia. He was one of the first to greet and welcome me to Riyadh after being gone for two years. He was so interested in finding out everything about VE. From the beginning he would focus on electrical engineering elements for value improvement. Aziz, as we would call him, was a master of computers. He would continue to develop new tools for our use.

His English speaking ability also made us outsiders feel more welcome. We would have social gatherings in the desert and enjoy wonderful Arabic food. He would take the time to explain to every new participant in a VE session how it was done and why it was important to the Kingdom of Saudi Arabia.

Once the SAVE Chapter was formed in Saudi Arabia, it was no question who should be the chapter president. Aziz took on the responsibility with so much enthusiasm and encouraged others to join. He made sure there were chapter meetings with lively discussions. As he moved on to other jobs he continued to support VE, SAVE and lead the chapter. He has formulated VE conferences in Saudi Arabia and has taught hundreds or thousands in the VE methodology. His Arabic book on VE has been a great success in getting VE implemented in government and private industry.

I wish him a well deserved rest from the hard work he has given to SAVE as chapter president. I am very happy and honored to call Abdulaziz Al-Yousefi my friend and colleague.

*Dr. Stephen J. Kirk, FAIA, FSAVE, CVS, LEED  
President, Kirk Associates, LLC*

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## CONFERENCE CORNER



# Value Training in San Diego – Modules I/II and FAST

David Wilson, VP - Conferences

Last month I highlighted some of the courses that SAVE will be offering this year at the San Diego conference. Just to refresh your memory, these courses - *Choosing By Advantages* (Jim Suhr), *Life Cycle Costing for Buildings, Energy, Sustainability, Civil Works, and Products* (Robert Charette), *VA Tear-Down: A New Process for Product Development & Innovation* (Yoshihiko Sato and Jerry Kaufman), *Improving the VM Job Plan through the Application of Value Metrics<sup>SM</sup>* (Robert Stewart), and the *Presenter's Bootcamp Dinner Show* (Darren LeCroix) – offer a broad range of skill-development opportunities for our members. It's a great way to enhance your skills and to interact with leaders in the value industry. It's a great way to build on your experience and knowledge of the value methodology. What's this "value methodology" we keep talking about? Well, read on...we've got just what you need!

The value methodology is all about making life better by improving our projects, products, and processes. While other quality and improvement approaches exist, it is the study of functions that essentially sets the value methodology apart from all other approaches. This makes the value methodology a complementary, rather than competitive, approach to making projects, products, and processes better. You can integrate the value methodology into almost everything that you do to make better choices.

SAVE has **four** courses that will teach you the value methodology – from the basics to the advanced level.

## Module I - Workshop

Whether you want to learn the basics, or you plan on a career in the value industry, this is where it all starts. Module I training is your first step towards certification with SAVE as an Associated Value Specialist (AVS), Value Methodology Practitioner (VMP), or Certified Value Specialist (CVS). In this forty-hour course, you'll initially learn and practice how to assess information regarding the project, product, or process being studied, then define and classify the functions performed (or required), and develop new ideas to improve it. You will also learn, and practice, selecting ideas and developing them into proposals, and finally how to present your proposals to decisionmakers. This course equips you with a fundamental knowledge of the value methodology gained through interactive sessions, working with one or more projects. **Robert Stewart** will conduct this year's 5-day Module I training course, scheduled from June 20<sup>th</sup> to June 24<sup>th</sup>.

## Module II – Advanced Seminar

What comes after Module I? Well Module II of course! Module II was developed to enhance the skills and knowledge of value practitioners interested in ultimately leading value studies and/or promoting the value methodology. As the name suggests, the course builds on what you've learned in Module I and explores additional topics, such as team leadership, project management, marketing/sales, financial aspects, and client/management interaction. Module II employs a more interactive teaching approach than used in Module I and draws on the experience of the attendees. Course attendees must have at least six months of practitioner or program manager experience to attend this course. **Jim Rains** will conduct this year's 3-day Module II training course, slated for June 22<sup>th</sup> to June 24<sup>th</sup>.

## Function Analysis System Technique (FAST) Courses

The principal difference between the value methodology and other improvement approaches is the study of functions. It's likely the most important step in the job plan. It's also likely one of the most difficult study components to master. The Function Analysis System Technique (FAST) was

developed to understand and communicate the classification of, and interrelationships between, functions. FAST is a powerful mapping technique that graphically models projects, products, and processes in function terms and identifies function dependencies. It is an organized structure ideally suited for exploring complex issues. FAST identifies – in a step-by-step method – required functions and the means to arrive at those functions. However, FAST is more than a pretty picture, it's an illustrative way to communicate a new language – the language of functions. The language of functions, using active verbs and measurable nouns, allows multi-disciplined teams to effectively communicate and to resolve complex technical and managerial issues, or make decisions.

We've got two levels of FAST training at this year's conference, both taught by **Jerry Kaufman**. The courses, ***Fundamentals of FAST*** and ***Advanced FAST*** build on what you've learned during the Module I and II training courses:

### **Fundamentals of FAST**

The ***Fundamentals of FAST*** course is targeted at the basics of FAST using Charles Bytheway's (developers of FAST) original Classic FAST approach. You'll have plenty of chances to practice what you've learned during interactive problem solving sessions, in teams or individually. During the course, you'll learn how to identify functions by random determination or by expansion, determine the major logic path, and to understand the differences between functions and activities.

### **Advanced FAST**

For those of you hooked on FAST, ***Advanced FAST*** is the answer. This is intended for those who have either completed the ***Fundamentals of FAST*** course or who have extensive experience (equivalent to the ***Fundamentals of FAST*** course). The course is focused on the how to utilize FAST in complex, less tangible, situations, such as organizational performance and restructuring, business issues, market alignment, and corporate strategies. During the course, you'll learn how to test sensitivity, cluster functions, identify decision gates, and how to use formatting to emphasize key areas of the FAST diagram.

All four of these courses offer a way for you to improve your skills in the value methodology. Take the next step in developing yourself as a value professional. It's a great way to look at, and solve, the problems of your world!

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## **Sponsorship Opportunities Are Still Available!**

Conference sponsorships provide an excellent way to receive name recognition from potential clients and value study team members. SAVE International's 2005 Annual Conference still has many opportunities open for sponsorships.

- Conference Program: The conference program accepts advertising on the inside front and back covers and within the body of the content. Distributed to all members and a host of others, a conference program advertisement provides high visibility to a wide range of recipients.
- Forums: Sponsoring forums is the perfect way to target your company to others who have similar interests, backgrounds, and professional specialties.
- Receptions and Meals: Let all attendees know that a good time and good food are courtesy of your generosity.

- General Sponsorships: A general sponsorship helps SAVE International provide high quality programs, activities, and refreshments to attendees. This most flexible of sponsorships allows the conference planning committee direct funds where they're most needed.
- Specialized Sponsorships: The opportunities for specialized sponsorships are infinite. Suggestions include:
  - Sponsor the wine at the Monday evening awards banquet
  - Sponsor the pads of paper inserted in the conference padfolios
  - Sponsor a keynote speaker

Use your ingenuity to make this year's conference better than ever! All sponsors will be recognized in the conference program for their contributions.

Explore sponsorship opportunities by contacting **Debbie Kaplan** at [debbie@pmsimail.com](mailto:debbie@pmsimail.com) or (301) 340-0527.

## **SO, YOU ARE COMING TO SAN DIEGO — “AMERICA’S FINEST CITY” — AND YOU WANT TO KNOW WHAT TO DO AND WHERE TO FIND THE BEST DEALS!**

*By Ronald J. Tanenbaum, PhD, PE, GE, CVS, FASCE President*

The best web site for finding out what is happening in San Diego, and downloading discount coupons for some of our favorite attractions and best restaurants, is [www.signonsandiego.com](http://www.signonsandiego.com). This is an excellent site for information about “*America’s Finest City*”. On the left of the home page is a link list and “Coupons” will lead you to some of those discounts we all like to have. To obtain discount coupons for events, restaurants, nightclubs, attractions etc., you go directly to the following web site: <http://customcoupon.com/cgi-bin/localentry.cgi?config=UT>



Another great site is [www.sandiego-links.com](http://www.sandiego-links.com). You can find a list of all the restaurants and clubs in the Gaslamp Quarter a few steps from your hotel, or go to their events calendar and learn what is happening in the San Diego area.

A handy site with valuable information for visitors is the City of San Diego site at <http://www.sandiego.gov/directories/visiting.shtml>. Of course there is the San Diego Convention and Visitors Bureau which can be accessed at [www.sandiego.org](http://www.sandiego.org). At this location, you can request a **FREE** San Diego Vacation Planning Kit to begin planning your San Diego Getaway. But make this request now to allow adequate time for mailing before you board your plane to sunny southern California. Click on attractions and look under San Diego Passport (<http://hotels.sandiego.org/246/-/attraction/7>). This could be your best deal for getting to know our city and all that it has to offer.

For information about our miles and miles of sandy beaches, visit <http://www.earth911.org/WaterQuality/default.asp?cluster=1>. Click on the beach you wish to visit and they will tell you of conditions regarding a safe bathing experience.

Still not convinced? Try [www.infosandiego.com](http://www.infosandiego.com) or [www.seeyouinsandiego.com](http://www.seeyouinsandiego.com) for more information and discount tickets. And, if you want to learn how to get around without a car, visit [www.sdcommute.com](http://www.sdcommute.com).

All of this should overwhelm even the seasoned internet navigator. Do some research, learn what is available to you here, plan ahead, and have a great time in San Diego – indeed “*America’s Finest City*”!

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## **Register Now for Pre-Conference Workshops**

### **MODULE I VALUE METHODOLOGY TRAINING WORKSHOP**

This course was developed to provide a basic understanding of the theory and techniques of Value Methodology, a unique problem solving and value improvement process that focuses on project functions to develop innovative solutions that will improve both performance and cost. It is directed to those new to the discipline with emphasis placed on the practical application of Value Methodology techniques to improve the value of any project, whether it is concerned with a facility, product, service or management procedure. Project managers in public and private organizations will find this course particularly useful.

Upon the successful completion of the course, participants will be able to:

- Accurately use the terminology of VM to describe and define Value Methodology, its uses, benefits, and characteristics.
- Demonstrate an understanding of the history, development, and tools of Value Methodology.
- Explain in detail the key concepts of value, cost, and performance; identify how these concepts affect projects in their area of expertise; apply techniques to define and improve the value of their project.
- Develop a thorough understanding of the Value Methodology Job Plan and the application of Value Metrics to each phase of the Job Plan including:
  - Preparation
  - Information
  - Function
  - Speculation
  - Evaluation
  - Development
  - Presentation
  - Implementation
- Use VM’s technical tools and techniques applicable to each of the above stages. These include:
  - Function Analysis and FAST Diagramming
  - Costing methods and approaches
  - Communications and facilitation techniques for multi-disciplinary teams
  - Creativity techniques
  - Evaluation techniques

- Alternative analysis
  - Presentation techniques
  - Change management techniques
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## **MODULE II ADVANCED SEMINAR**

**Date:** Wednesday through Friday, June 22 - 24 (24 hours)  
**Instructor:** James A. Rains, Jr., CVS-Life, FSAVE

The objective of this seminar is to provide advanced training to people who can lead value engineering workshops. Therefore, most of the course deals with leadership skills to ensure group effectiveness during VE studies, positive group dynamics within VE teams and the effective use of information. In addition, participants in Module II will explore ways to improve cohesiveness, creativity and communication skills within VE teams.

The course also broadens and re-enforces each participant's understanding of VE job plans, function analysis, FAST diagramming and function relationships with cost and other metrics. Because leaders make key decisions about projects, Module II covers topics related to the overall performance of VE studies: project team selection, creativity processes, financial evaluation and interpersonal leadership skills. Come prepared to discuss these topics and many others. Many want to learn how VA/VE relates and integrates with other value improving techniques, such as Six Sigma, DFM/A, lean and target costing. The seminar is intended for open participation and all in attendance will be encouraged to do so.

### **Who Should Attend?**

This seminar is designed for people in government, industry and construction who are involved in product and parts manufacturing, healthcare, research, education, environmental facilities, buildings, roads, transportation, processes and the delivery of services. Because this seminar has been approved by SAVE International and is essential for people who are interested in being recognized as Certified Value Specialists (CVS) by the Certification Board of SAVE, they should attend but not before completing a Module I and having some VE experience. Upon completion, each participant will be awarded a certificate.

## **VA TEAR-DOWN: A NEW PROCESS FOR PRODUCT DEVELOPMENT & INNOVATION**

**Date:** June 24-25, 2005  
**Instructors:** Yoshihiko Sato, J. Jerry Kaufman, and Hank Ball

In your younger years did you ever have the urge to take things apart to discover what made them tick? I did that to my first (old) car. When I reassembled the car, I had enough parts left over to make a motorcycle.

This workshop is all about taking competing products apart; to discover that elusive attribute we Value Engineers call "Perceived Customer Value."

The workshop teams will be given two competing products and furnished hand tools to systematically dissect the product, do some "Reverse Engineering," Identify differences in attributes, analyze the way each producer addressed the product's functions, and make a value assessment.

The course will not only change your buying habits, but also will add a new value discipline to your Value Engineering tools and sharpen your Value Engineering services.

Each participant will receive a copy of a recently published book VA Tear-Down, written by Sato and Kaufman.

No, you won't have to reassemble the products.

## **FUNDAMENTALS OF FAST: MAKING FAST EASY TO UNDERSTAND AND APPLY**

**Date:** June 25, 2005  
**Instructors:** J. Jerry Kaufman and Hank Ball

FAST is a powerful mapping technique that graphically models projects, products and processes in function terms and identifies function dependencies. It is an organized structure ideally suited for exploring complex issues. FAST identifies and maps, in a building block process, function dependencies and the means to arrive at those functions. Since problems are rarely single dimensioned, the language of FAST, using active verbs and measurable nouns, allows interdisciplinary teams to effectively communicate and resolve complex technical and managerial issues. This mapping process separates functions from activities and symptoms from problems to better define, address and resolve root cause problems. The seminar is formatted as a series of lectures, with active participation encouraged by the attendees. Approximately 65% of the workshop will be devoted to tutorial. The remaining time will be devoted to developing a simple FAST model and discussing various FAST application business cases.

You will learn the basics of FAST, the intuitive logic principles that drive FAST and how to make practical use of this powerful process for creative problem solving.

## **ADVANCED FAST: DIMENSIONING MAKES FAST MORE THEN A MODEL. DIMENSIONING MAKES FAST A SUPERB ANALYSIS AND DECISION PROCESS**

**Date:** June 26, 2005  
**Instructors:** J. Jerry Kaufman and Hank Ball

ADVANCED FAST will focus on applying this powerful methodology to technology and business issues, offering an entry into market areas and study topics not normally associated with Value Management. Examples discussed and presented include, but are not limited to: new product development, organization effectiveness, program management, healthcare, bridging the capital assets, manufacturing and service industries and many others. Major emphasis will be on FAST dimensioning techniques and metric selection making the FAST diagram an effective and dynamic analysis process. You will learn how to listen "functionally," to construct FAST models based on the project's issues of concern. Where "soft" issues are involved, the participants will learn to identify non-hardware functions for developing organization and process FAST models. This course will explore and discuss a variety of business cases and will assist you in creating FAST models that address your professional concerns.

**NOTE (1) PREREQUISITE:** *Registrants should have a working knowledge of the basics of FAST. Participants, who have taken the one-day FAST course offered in this, or previous SAVE International Conferences, would satisfy the prerequisite requirements for this course.*

# LIFE CYCLE COSTING FOR BUILDINGS, ENERGY, SUSTAINABILITY, CIVIL WORKS & PRODUCTS

**Date:** Sunday, June 26 (8 hours)  
**Instructor:** Robert P. Charette, CVS-Life

The Life Cycle Costing (LCC) seminar is based on ASTM International Building Economics Standards to ensure consistency and universal acceptance of the terminology and methodology.

The choice of economic criteria and the selection of present value factors from Financial Tables are first addressed; these factors include Single Present Value (SPV), Uniform Present Value (UPV), Modified Single Present Value (SPV\*), and Modified Uniform Present Value.\* The use of these factors to calculate present values of single and annual amounts, both escalating and non-escalating is demonstrated. The calculation of life cycle costs of alternatives based on operating, maintenance, energy, and capital costs are then covered, with examples. To analyze the results and select the most appropriate option, standard analytic measures and examples are introduced, including: Net Savings (NS), Savings-to-Investment Ratio (SIR), Adjusted Internal Rate of Return (AIRR), and Discounted Payback (DPB). Finally, sources of LCC data and software are addressed, as well as the problems involved in integrating the technique in the building design process.

The seminar includes three intensive hands-on workshop sessions so participants can learn how to use the Financial Tables provided and solve practical LCC problems, many of which deal with energy.

## ABOUT THE INSTRUCTORS (IN ALPHABETICAL ORDER)



**Henry (Hank) Ball** is the founder and President of Ball Associates, Inc. and a Senior Associate with J. J. Kaufman Associates, Inc. He is a graduate of Franklin & Marshall College, Lancaster, PA. Earning a Baccalaureate in accounting and an MBA.

As a value management practitioner for over eleven years Hank facilitated a broad spectrum of value studies, developing innovative approaches to organizational decision making tasks and managing a program to provide seed money for the development of Value Engineering Change Proposals (VECPs). Hank joined Boeing in 1985 after a twenty-one year Air Force career where he served as a Flight Examiner Pilot on C-130s and a "Hurricane Hunter" in WC-130s. Other Air Force duties included Tactical Airlift Advisor to the Royal Saudi Air Force, ROTC instructor at Manhattan College in New York, leader of the Airlift Control Element and then Chief, Combat Operations for the 62nd Airlift Wing, McChord AFB. At Boeing, Hank was assigned as the manager of the Logistics and Training volumes on the winning 747 Air Force One proposal. He began his focus on value management while at Boeing. He quickly developed an ability to identify opportunities for value improvements and, by following the SAVE International Value Methodology Standard, facilitated teams in achieving positive results.

Hank is the recipient of numerous decorations from his military service, was named the "Rising Star" award winner in 1997 by SAVE International and was recognized by the Department of Defense in 1998 for special achievements in the field of Value Engineering.



**Robert P. Charette, P.Eng., CVS, PQS**, is an associate adjunct professor at Concordia University in Montreal. He is a member and former secretary of the ASTM E06.81 Sub-Committee that developed building economics standards, and past co-chairman of their Task Group for the UNIFORMAT II Standard Classification of Building Elements, widely used for design estimates and schematic phase

specifications. A past member of ASHRAE TC 1.8 on Owning and Operating Costs, he is also qualified as a Certified Value Specialist (CVS) by the Society of American Value Engineers, and as a Professional Quantity Surveyor (PQS).

Mr. Charette has also authored the Life Cycle Costing section of the R. S. Means annual Maintenance and Repair Cost Data Manual , and co-authored the Energy Economics section of the Royal Architectural Institute of Canada (RAIC) Energy Design Manual.

He has lectured and presented seminars on Life Cycle Costing, Energy Management, Value Engineering, Elemental/Systems Estimating and UNIFORMAT II for Design Management to various organizations and universities in the U.S. and Canada. Recently, he participated as a speaker on LCC in several seminars on sustainability/green buildings presented by the RAIC (he is also a member of the Canada Green Building Council).

Mr. Charette has presented LCC seminars to ASHRAE in San Diego and Calgary, The Canadian Society for Value Analysis Annual Conference, the ASHRAE Regional Conference in Toronto and the Canadian Institute of Quantity Surveyors AGM in Halifax.



**J. Jerry Kaufman**, CVS, FSAVE, is President of J. J. Kaufman Associates, Inc. a Value Management services company. He has engineering degrees from the Academy of Aeronautics and Johns Hopkins University. As Corporate Director of Value Management for Cooper Industries, Jerry developed and successfully implemented VE in the corporate organization. His 25 years of progressive management positions with the Martin Co., Honeywell, and Cooper spans the industrial, energy, process, service and aerospace industries. Jerry has written four books, many papers and articles on Value Management. He is past President of SAVE, and past Chairman of the CVS Certification Board. Jerry's honors include; "Engineer's of Distinction" by the Engineers Joint Council in 1973, the "Meritorious Service award," "Fellow" and "Life Member" of SAVE International. In 1980 and again in 1999 he was awarded the "Presidential Citation" by the Society for Japanese Value Engineering for his contributions in establishing and supporting Value Engineering in Japan. The American Association of Cost Engineers (AACE) recognized Jerry as their "Speaker of the Year" for the period 1989-1990. In 1994 SAVE presented Jerry with the "Lawrence D. Miles Award."

**James (Jim) Rains** is President of the Advanced Value Group, LLC (AVG). AVG specializes in value engineering and synchronous process improvements in the factory or office environment. He retired after more than thirty-one years with General Motors. Jim has served on the SAVE International Board of Directors in several capacities, including President and Board Chairman.

Mr. Rains became a Certified Value Specialist in 1988 and is currently a Life - CVS. He was elected into the SAVE College of Fellows in 2002. Jim was awarded and recognized by SJVE in 2001. He is a member of the Lawrence D. Miles Value Foundation Board of Directors, Executive Committee and Treasurer. He was recently honored as the Arizona Businessman of the Year for his support and leadership in small business endeavors.



**Yoshihiko Sato**, Certified Value Specialist, is President of the Value & Profit Management (VPM) Technical Institute Inc. in Sagamihara, Japan, and Associate Director of the Society of Japanese Value Engineering (SJVE). He began his career with Isuzu, where he subsequently developed "Tear-Down" and integrated this methodology into the operating culture of Isuzu to increase its global competitiveness. Sato-san was elected a Fellow by the SAVE International Board in 1995 and in the same year received a VE Outstanding Research and Development Award from SJVE



**Robert B. Stewart** is a Certified Value Specialist who has been practicing Value Methodology for over 15 years. During this time, he has lead over 150 value studies for clients in both the private and public sectors on a wide range of products, services and facilities from forklifts to multi-billion dollar transportation projects. He has taught courses in Value Methodology at Portland State University and the University of California, Berkeley. Mr. Stewart was responsible for developing *Value Metrics*, a value measurement system that compliments traditional Value Methodology. This system of techniques is now used by a number of public agencies as a means to evaluate the relationship of project cost and performance to value improvement. He has received several awards for his work on public infrastructure projects. Mr. Stewart is currently a vice president with the consulting firm, Value Management Strategies, Inc. and resides in Portland, Oregon.

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## **CERTIFICATION CORNER**

### **Congratulations!: Newly Certified**

SAVE International extends warm congratulations to those individuals who have achieved certification in the month of March:

#### **ASSOCIATE VALUE SPECIALISTS**

- Mohammad Taghi Abbasi (Iran)
- Abdulaziz Al-Ghamdi (Saudi Arabia)
- Abdulkhaleg A. Al-Humailis (Saudi Arabia)
- Jabir Al-Kubaybah (Saudi Arabia)
- Mohamed Al-Naboud (Saudi Arabia)
- Saleh Al-Shehri (Saudi Arabia)
- Sara Sedigheh Aminaei (Iran)
- Jamshid Bamadi (Iran)
- Nasir Sadr Chehragh (Iran)
- Hamid Deghani (Iran)
- Ali Jannat Doust (Iran)
- Nasser Eskandari (Iran)
- Ali Akbar Gholamalipour (Iran)
- Mahvash Golshan (Iran)
- Yasser Juharji (Saudi Arabia)
- Kamvab Khoshnasib (Iran)
- Abolfazi Mirzazadeh (Iran)
- Hadi Modaghegh (Iran)
- Eyad M. A. Nazmi (Saudi Arabia)
- Jerrold Ratner (USA)
- Vahid Gohari Sadr (Iran)
- Gholamali Safari (Iran)
- Esther M. Stafford (USA)
- Randy S. Thomas (USA)
- Majid Vafaei (Iran)

For certification information, please contact the [Certification Board Administrator](#).

Certification program information is available online here: [http://www.value-eng.org/education\\_certificationprg.php](http://www.value-eng.org/education_certificationprg.php).

## SOCIETY NEWS

### SAVE International Joins TISP

The Infrastructure Security Partnership (TISP) is “a forum for U.S. based public and private sector non-profit organizations to collaborate on issues regarding the security of the nation's built environment, including natural and man-made disasters.” Seeing a prime opportunity to combine civic responsibility and the many benefits of the value methodology, SAVE International is now a contributing member of TISP.

From the TISP website ([www.tisp.org](http://www.tisp.org)): “TISP acts as a national asset facilitating dialogue on physical infrastructure security, by leveraging members. technical expertise and research & development capabilities in the design and construction industries. TISP membership currently includes 180+ organizations. Collectively, TISP represents more than two million individuals and firms involved in the planning, design, construction, and operation of the nation’s critical infrastructure. TISP’s objective is to create a collaborative environment, which will raise awareness and will lead to sustainable security improvements to U.S. critical infrastructure.”

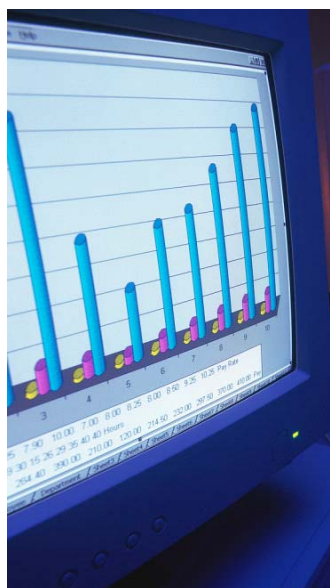


SAVE International member Mary Ann W. Lewis, FSAVE and Vice President – Finance David C. Wohlscheid, CVS-Life, PE, DEE will serve as the Society’s primary and secondary contact points, respectively. Lewis is the president of Lewis & Zimmerman Associates, Inc. and Wohlscheid is a vice president of MACTEC Federal Programs, Inc. Both have extensive experience working on federal projects.

Membership with TISP affords SAVE International many opportunities to promote the value methodology as all work to make the world a safer place.

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## Web-Based Lecture Series Begins April 20



SAVE International will initiate the web-based lecture series on **April 20, 2005, at 12:00 p.m. Eastern Time** with an encore performance by Robert B. Stewart, CVS-Life, of Value Management Strategies. Stewart will present his paper titled **“The Integration of the Performance Measures Process into Value Studies”**. The paper’s abstract is below.

The web-based lecture service is a new member benefit. SAVE International invites any and all members to participate. Participants must have a computer with Internet access (high speed access preferred) to view the presentation and a telephone for the audio portion. The cost for each audiovisual connection is \$25.00 US and must be paid in advance. Groups may gather at a single point, put the audio on a speaker phone, and the use a computer projector so that all may see the presentation and share the cost of a single session connection.

To participate, log into the members’ only pages of the SAVE International website ([www.value-eng.org](http://www.value-eng.org)), open the page titled “Web-Based Lecture Series”, and then select the seminar. A presentation participation form will download. Use the participation form to sign up for the presentation. Upon the Business Office’s receipt and processing of your commitment, you will receive an electronic invitation to participate. Instructions on participation will be provided with the invitation and are simple to execute.

SAVE International members who wish to schedule a presentation for their chapters or interest-based groups should contact the SAVE International Business Office at [info@value-eng.org](mailto:info@value-eng.org) or (937) 224-7283. The Business Office will assist with setting up the presentation and conference call and sending out session invitations. No travel is required, although those in geographic proximity may wish to gather together to share the session connection fees.

## **ABSTRACT: “THE INTEGRATION OF THE PERFORMANCE MEASURES PROCESS INTO VALUE STUDIES” BY ROBERT B. STEWART, CVS-LIFE**

Value methodology (VM) has traditionally been perceived as an effective means for reducing project costs. This paradigm only addresses one part of the value equation and typically overlooks the positive effect that VM may have on project performance for the sake of cost savings. The Performance Measures Process was developed in conjunction with the California Highway Department of Transportation over the past several years as a means of developing a better understanding of the effects that recommendations developed in value studies have on project performance. The greatest strength of this process lies in its focus on achieving total value improvement. The process seeks to measure performance by:

- Identifying and defining key performance attributes.
- Determining the relative importance of performance attributes in meeting a project’s purpose and need.
- Developing measurement scales to quantify (or qualify) performance levels.
- Comparing performance to cost ratios (i.e., value) of multiple design concepts.

The paper will describe how the Performance Measures Process may be integrated into value studies at each state of the job plan. The paper will also demonstrate how the Performance Measures Process may augment value methodology by:

- Building consensus among project stakeholders (especially those holding conflicting views).
- Developing a better understanding of a project’s goals and objectives as they relate to purpose and need.
- Developing a baseline understanding of how the project is meeting performance goals and objectives.
- Identifying areas where project performance may be improved through the VM process.
- Developing a better understanding of an alternative concept’s effect on project performance.
- Developing a deeper understanding of the relationship between performance and cost in determining value.
- Using value as the basis for selecting the best project or design concept.

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## **Standardized VM Contracts Available Soon**

No longer will value consultants have to modify agreements meant for other industries to serve as business agreements to provide value management services. SAVE International will soon offer three standardized contracts for the use of value consultants. The contracts are specific to value services. Each contract is accompanied by a separate scope of services document that describes each party’s responsibilities.

The standardized contracts and scopes of services will be available by the first week of May 2005. SAVE International offers these documents at no cost to users. Value consultants may download them from the [SAVE International website](http://www.value-eng.org). The documents, formatted as Rich Text Files (\*.rtf) to accommodate most word processing programs, will be located under the [Publications and Product Catalog](http://www.value-eng.org/catalog_products.php) menu ([http://www.value-eng.org/catalog\\_contracts.php](http://www.value-eng.org/catalog_contracts.php)). Users must modify the downloaded services and agreement template(s) to suit a particular project's requirements.

Available contracts, with associated scopes of services, will include:

- Standard Professional Services Agreement
- Value Engineering Services Agreement.
- Subconsultant Value Engineering Services Agreement.

SAVE International accepts no liability for the use of any of those documents.

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## Project Testimonials Sell VM

Have you ever wished for concrete project examples to convince a potential client to convince that using VM is a prudent investment of resources? Have you completed projects that are wonderful examples of the successful application of VM?

Of course, you have!

SAVE International is soliciting project testimonials that demonstrate successful applications of VM. These testimonials will be made available as PDF documents for printing to any value practitioner or project manager to use as evidence that VM makes a beneficial difference in the way products, buildings, services, and organizations are designed, produced, built, or run.

Entering your project testimonials is easy. You may submit the information online at [http://www.value-eng.org/benefits\\_project\\_testimonials\\_form.php](http://www.value-eng.org/benefits_project_testimonials_form.php). Or simply send an article about the project to the Business Office at [info@value-eng.org](mailto:info@value-eng.org).

The first project sheet is already available: Fort Meade Barracks. As the list grows, members are encouraged to print out and present the project sheets to potential clients and team members.

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## SAVE International Marketing Fliers Available



Responding to requests for easily updated, immediately obtainable, targeted marketing materials, the SAVE International Business Office converted the existing brochures into single-sided, one-page fliers into PDF documents that members and value practitioners may download and print upon demand. The fliers are available online at [http://www.value-eng.org/benefits\\_brochure\\_order\\_form.php](http://www.value-eng.org/benefits_brochure_order_form.php).



Each colorful flier excerpts the pertinent content from the larger brochures, adds a picture, and includes a membership application. The Business Office welcomes suggestions and content for additional fliers.

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## Chapter Rebate Options Requested

SAVE International requests that SAVE International chapters receiving chapter rebates please contact the Business Office with their preferences regarding disposition of their chapter rebates. This year, the Society offers the following four options:

- Direct deposit
- Conference sponsorship
- Donation to SAVE International
- Donation to the Miles Value Foundation



If your chapter decides upon the direct deposit option, the chapter treasurer must send the chapter's bank name, account number, and routing number to the Business Office. Either call (937) 224-7283 or send the information to [info@value-eng.org](mailto:info@value-eng.org). With direct deposit such a reliable and immediate method of distributing rebates, checks will no longer be used.

Should your chapter decide to donate its rebate toward a conference sponsorship, please specify whether the funds go toward a specific sponsorship or will be used as general sponsorship.

Of course, the Society itself always welcomes your generous donations to help fund activities, programs, and publications.

Your generous contribution the Miles Value Foundation would also be greatly appreciated. The Foundation welcomes donations to support their educational efforts and programs.

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# CHAPTER NEWS

## Gulf Chapter Elects New Board

It my pleasure to announce the results of the 4th term general election of our Gulf Chapter. The election was held in Riyadh, Saudi Arabia on March 8, 2005.

The 4<sup>th</sup> term general election, sponsored by the Saudi Council of Engineers, was held at Olaya Holiday Inn in Riyadh, Saudi Arabia on March 8, 2005. The new elected board members are:

1. Ali M. Al-Khuwaiter, CVS-Life .....President
2. Saleh Al-Eshaish, CVS .....Member
3. Saleh Al-Hudaif, CVS .....Member
4. Issam Gabbani, PhD. ....Member
5. Issam Al-Momen, AVS .....Member
6. Ahmad Al-Ghamdi, AVS .....Member
7. Majed Ismail, CVS .....VP-Saudi Arabia
8. Ali Al-Anazi, AVS .....VP-Kuwait
9. Jassim Telefat, AVS .....VP-Qatar
10. Jasser Saeed, AVS .....VP- UAE
11. Salman Shehab, AVS .....VP-Bahrain
12. Nasser Al-Qassabi, AVS .....VP-Oman

I am proud to serve our society for the last 15 years. We've reached a long way ... just to mention few:

- The Saudi government mandated VE applications on all government projects that are more than \$5 million. Other Gulf countries will follow.
- All government contracts and lots of private sector contracts have included VE clauses.
- Three Arabic VE books have been written by Gulf CVSs and a fourth one will be issued this year.
- The certified people in the Gulf has reached around 200 (CVSs and AVSs) and growing.
- VE Training workshops (Module 1 & Module 2) are held at the rate of 40-50 per year.
- VE studies are conducted at the rate of 80-100 per year.
- Two regional conferences were held (2001 & 2003). And planning for the third one in year 2006.

From this point forward, please address all correspondence to the Gulf Chapter directly to the new president, Mr. Ali M. Al-Khuwaiter, CVS-Life at [Khuwaitera@rcjy.gov.sa](mailto:Khuwaitera@rcjy.gov.sa).

Of course, I'll continue to serve our society and chapter in every way possible.

God bless.

## **MEMBERS IN THE NEWS**

### **Lewis & Hamilton Talk VM with USDA**

As SAVE International representatives, Mary Ann W. Lewis, FSAVE and David A. Hamilton, PE, CVS, CCE, LEED, AP will present two sessions on the value methodology and life cycle costing at the U.S. Department of Agriculture's Rural Development Office in Portland, Oregon USA on April 19, 2005. They will address the research and development staff who have developed a new value engineering policy.

The USDA Rural Development Office's representative in Washington, DC, with whom Lewis has coordinated, invited Lewis and Hamilton to inform USDA state engineers about value engineering and life cycle costing. Lewis and Hamilton will give their presentations at the Hilton Portland.

"It's great to have another government agency support VE," Lewis said.

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### **Welcome, New Members!**

SAVE International warmly welcomes the following new members, who have joined since March 15, 2005:

- Hannah Buchman (USA)
- Janaki Chetlapalli (USA)
- Rebecca Collins (USA)
- Pragnesh Desai (USA)
- Christopher A. Fenton (USA)
- Hamid Firoozgan (USA)
- Frank Heinsohn (USA)
- Thomas Kutscher (USA)
- Larry Last (USA)
- Zoran Lazaroski (USA)
- Harricharan R. Maharaj (Trinidad)
- Christopher J. Mallett
- Robert J. Millsap, P.Eng. (Canada)
- William Neathamer (USA)

- Gary J. Neville (USA)
- George Padvorac (USA)
- Craig Squires (USA)
- Mehdi Tavassoli (Iran)
- Adam Viner (USA)
- Vergenia Whiting (USA)
- Joseph Willey (USA)

And the following student members:

- Solomon Addy (UK)
- Paul Clerkin (Ireland)
- Aditya Gupta (UK)
- José Raul Ruiz Ibarra (USA/Mexico)
- Xiaoming “Robin” Mao (Canada)
- Jeff McDaniel (USA)
- Andrew Russell Nuessle (USA)
- Deepthi Nayana Pasupuleti (USA)
- James Andrew Trafford (UK)
- Raina Diane Trice (France)
- Javad Vaziri (IRAN)
- Søren Wandahl (Denmark)

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## MVF NOTES

### **South African University Ready to Adopt MVF’s VE Course to Curricula**

*By Rudy H. Kempter, FSAVE  
Director – Miles Value Foundation*

The reason we recently traveled to visit Keith and Hilde Van Reerden in Pretoria, Capitol of Republic of South Africa (RSA), was to celebrate 25 years of VE friendship.

While there, we spontaneously contacted several VE practitioners from industry, government, and Pretoria University faculty. A meeting occurred when Keith phoned the following to invite them as my guests to a “VE update” luncheon: Tony Philips, SASOL; Andrew Barker, VE development consultant; Lorraine Iubscher, SA Value Circles; Professor Susan Adendor, Pretoria University, MBA Dean; Professor Schalk Classen, head industrial engineer, Department Pretoria University; Dick Stringer, CVS, President, VM Services.

I explained the contents of the Miles Value Foundation (MVF) VE course package being used in several USA universities in engineering, construction, and business applications. Pretoria University faculty were immediately attracted to receiving the course for industrial engineering and MBA classes use.

Faculty will seek industry and government sponsors to fund the courses, available at cost from the MVF. Donald Parker, MVF course author and Dr. Stephen Kirk, MVF's vice president of education, will provide course guidance as requested by the university.

Luncheon attendees vowed to rejuvenate VE chapter activities during this current RSA resurgence in industry and business. They also intend to send a delegate to the upcoming SAVE International Annual Conference in San Diego, California USA, June 27 – 29.

I announced that venerable H. Keith Van Heerden, CVS-Life, mining engineer, was nominated as a candidate for fellow status in the SAVE International College of Fellows. If selected, he will be the first from the RSA.

As founder of the VE society in RSA, attendee at many SAVE conferences, publisher of numerous papers, he invites email from all at [keithvh@absamail.co.za](mailto:keithvh@absamail.co.za).

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## VM EVENTS

### **Enhancement of Construction Value Management Professionalism for the New Generation**

Further to previous three successful VM seminars and workshop, we are going to hold the fourth seminar, a workshop and a VM course starting in the coming 28th May 2005. The proposed VM events are part of the "Enhancement of Construction Value Management Professionalism for the New Generation" project run by the **Hong Kong Institute of Surveyors** and the **City University of Hong Kong**, and funded by the **Professional Services Development Assistance Scheme (PSDAS)**.



- 5-day Full VM Workshop: Value Management (VM) for Design & Construction Methodology & Application by Dr. Stephen Kirk and Dr. Mei-yung Leung (Approved by the SAVE International in USA and the HKIVM in HK), 28<sup>th</sup> May – 1<sup>st</sup> June 2005 (9:00 a.m. – 6:00 p.m.)
- 1-day VM Course: An interactive session: Function Analysis by Mr. Jerry Kaufman, 4<sup>th</sup> June 2005 (9:00 a.m. – 6:00 p.m.)

- 2-hour VM seminar: Sustainability/LEED & Life Cycle Costing- Their Role in Value-Based Design Decision-making (VM) by Dr. Stephen Kirk, 31<sup>st</sup> May 2005 (7:00 p.m. – 9:00 p.m.)
- 2-day Int'l VM Conference: Why reinvent the wheel? (see <http://www.hkivm.com.hk/conference/index.htm>), 2<sup>nd</sup> -3<sup>rd</sup> June 2005 (9:00 a.m. – 5:00 p.m.)

## WHY THESE VM TRAININGS?

A number of formal documents (WTBC16/1998; Tang2001; WTBC35/2002) strongly recommend a wider adoption of VM techniques in order to achieve an excellence in the quality of construction products. However, qualified facilitators /co-facilitators are hard to come by in Hong Kong. The full 5-day VM workshop and the 1-day VM course are key steps for construction professionals to enhance their innovative management techniques and to obtain optimum value for each dollar in the construction industry. The different kinds of VM training will demonstrate the effectiveness of the VM techniques in enhancing value while reducing costs.

## WHO SHOULD ATTEND?

This course is designed for people responsible for making significant decisions for large and complex projects in private industry and public institutions. In the past, attendees have included executives, managers, architects, engineers, surveyors, trainers and technical specialists in consultant and construction companies, government departments, universities, agencies, etc.

Workshop information, instructor biographies, and registration information may be found on the [registration form](#).

## 1<sup>st</sup> ICEC & IPMA Global Congress on Project Management

**Date:** April 23 – 26, 2006  
Meeting & Events, April 22 – 23, 2006

**Location:** Cankarjev dom, Cultural and Congress Centre  
Prešernova 10, SI-1000 Ljubljana, Slovenia  
**Phone:** +386 1 241 7100  
**Fax:** +386 1 241 7296



[Content excerpted from the event website.]

Global competition, rapid technological advancement and innovations necessitate constant development of new and improved products and services as well as search for and development of

new forms of business operations and liaising. What today has significant market value might tomorrow already be obsolete. We are faced with rapid outdateding of market, applied and other forms of values that compel constant development and improvement. Apart from continual emergence of new products and services and search for innovative forms of business operations, one is faced with a problem how to successfully and efficiently manage all these changes from the entrepreneurial, managerial, technical, economic and financial aspect. Companies and other organisations practically deal with and resolve the problems of development and improvement of products, services and business operations, and thus improvement of competitiveness and business performance, within the scope of disciplines of strategic management, project management, operative management, cost engineering and business operations organisation. All these areas of expertise should connect and different specialists should work closely together in betterment of the improved or new products or services' value. These issues are tackled by a number of disciplines and experts and should hence be treated multidisciplinary and process-like.

The aim of 1st ICEC & IPMA Global Congress on Project Management and at the same time the 5th World Cost Engineering, Project Management, Cost Management and Quantity Surveying Congress is to accentuate the aforementioned issues and related expert solutions and innovations as well as exchange experience and provide an environment for a international gathering of experts. The Congress is dedicated to the experts and the users worldwide.

The Congress will be organised in cooperation with two world organisations which internationally embrace the discipline and professionals. ICEC (International Cost Engineering Council) comprises numerous cost engineering and project management national associations, involved in the issues of economy of projects, investment and concerned expert supervision. IPMA comprises individual experts and international national project management associations, engaged in the comprehensive issues of project management. Slovenian Project Management Association (ZPM) is a longstanding member of both mentioned organisations, with which it has so far organised several international events for Slovenian and foreign experts.

Dear experts and users, you are cordially invited to join us in the implementation of this momentous event. Enrich the event with technical papers, presenting your professional findings, practical experience or new ideas. Seize this opportunity to market your knowledge, exchange experience and rub shoulders with your colleagues.

*Dr. Brane Semolič*  
*President of the International Scientific Committee*

## **VENUE**

The Conference will be held at Cankarjev dom, Cultural and Congress Centre located in the very centre of Ljubljana opposite the Slovenian Parliament and within walking distance of major hotels, shops, restaurants, and main sights of the city. Cankarjev dom is a multi-purpose centre with some 36,000 square meters of event space. It can accommodate up to 5,000 visitors altogether in auditoriums providing seats for as few as 20 and up to 1,600 visitors. It also offers 3,800 square meters of exhibition space, and has banquet facilities for 1,200 guests. For more information, visit its website <http://www.cd-cc.si/kongres>.

For more information on this event, its programs, sponsorship and exhibition opportunities, submitting a paper, and other items, go here: [http://www.icec-ipma2006.org/?menu\\_item=welcome&menu\\_level=2](http://www.icec-ipma2006.org/?menu_item=welcome&menu_level=2).

## **CALL FOR PAPERS**

Authors are invited to submit abstracts for oral or poster presentations. Abstracts should focus on one of the seven Congress Streams and proposed themes within a Stream. All contributions will be reviewed before inclusion in the program. A considerable part of the invited lectures will be selected based on scientific merit of submitted abstracts. Abstracts containing no more than 400 words must be written in English using simple and clear sentences. The book of abstracts will be distributed to all participants upon registration in Ljubljana.

We ask the authors to submit the abstracts electronically in the MS-Word format via the on-line registration form. An acknowledgement of receipt of your submission will be sent to your electronic address after the submission is successfully completed.

### **The Abstract Specification**

- Title of the paper
- Name of lead author and other author(s)
- Author(s) Company / Institution's name
- Author(s) Country
- Keywords
- Abstract contents

The abstracts have to be formatted using the [Abstract Template](#) before on-line submission. The abstracts not formatted using the template and abstracts sent by e-mail will not be published.

Deadline for submission of abstracts is October 23, 2005.

Notification of acceptance of abstracts will be sent electronically to the corresponding author by December 12, 2005.

To **submit your abstract**, go here: [http://www.icec-ipma2006.org/?menu\\_item=registrationform&menu\\_level=3](http://www.icec-ipma2006.org/?menu_item=registrationform&menu_level=3).

## **REGISTRATION INFORMATION**

Registration information for conference workshops and events may be accessed here: [http://www.icec-ipma2006.org/?menu\\_item=registration&menu\\_level=2](http://www.icec-ipma2006.org/?menu_item=registration&menu_level=2).

Registration is required for all Conference participants and accompanying persons. The recommended option to register via the [on-line registration form](#).

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# Hong Kong Value Conference: “Why Re-Invent the Wheel?”

**Date:** June 2 – 3, 2005

**Location:** Hong Kong Exhibition & Convention Center, Hong Kong

Over the past 10 years, the HKIVM has hosted six international conferences, conducted hundreds of highly successful VM studies for both public and private construction industry clients and regularly published the *Value Manager* journal, while the HKIS conducted a series of VM activities in recent years. It is a long and never-ending journey to run, maintain and upgrade value standards both locally and globally and so far the effort has proved very successful in the Hong Kong construction sector. Now is the time for us to share our experiences and impart our valuable knowledge to other industries and sectors that can benefit from VM.

The event is co-organized by the Hong Kong Institute of Value Management and Hong Kong Institute of Surveyor.

For conference details, go here: <http://www.hkivm.com.hk/conference.htm>. Click [HERE](#) for the conference program.



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## OTHER EVENTS & ANNOUNCEMENTS

### Kuwait Quality Conference & Exhibition

<http://www.kuwaitquality.com/>

Telephone: +965 2405015 , 2453036, 2413047  
Fax: +965 2405018  
Postal Address: Soor Street, Soor Building, 4th Floor #33, Kuwait  
General Information: [info@promedia-international.com](mailto:info@promedia-international.com)

Program Chair: Dr. Tawfik Mady, College of Business Administration, Kuwait University

## **CONFERENCE THEME**

The theme of the conference is “TQM for Competitiveness”. This theme reflects the new challenging competitive environment faced by Arab manufacturing and service organizations because of the globalization of international economics and the new free-trade paradigm.

## **KEYNOTE SPEAKER**

The conference will host industry leaders and distinguished academic researchers to address the critical issues of TQM implementation and recent trends in the field.

## **CALL FOR PAPERS**

Papers and abstracts on all topics related to quality management principles, techniques, theories and implementations are invited. Preliminary topics include, but are not limited to,

- TQM Implementation
- ISO 9000 Certification
- Quality Awards
- TQM in Service Organizations
- Quality Function Deployment
- Benchmarking and Continuous Improvement
- Quality Strategy and Quality Performance
- Six-Sigma
- TQM Teaching and Training
- TQM in governmental agencies and
- Research projects in TQM.

Proposals for cases, workshops, symposia, panels and other special sessions are also invited.

## **SCHEDULE**

- Call for Papers Abstract Deadline: April 20, 2005
  - Papers due to Conference Program Committee: May 4, 2005
  - Conference Dates: June 5–7, 2005
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# AWWA's 2005 DSS Conference & Exposition to be Held in Florida

**Date:** September 18 – 21, 2005

**Location:** Tampa Marriott Waterside, Tampa, Florida USA



The American Water Works Association is holding this year's DSS Conference and Exposition for water distribution and plant operations professionals in sunny Florida. The event will run from September 18 through 21, 2005, at the Tampa Marriott Waterside in Tampa, Florida USA.

For more than 20 years, DSS has brought together decision makers and key influencers involved in water distribution. Attendees continue to rely on this event to provide them with the information on technologies, products, and services they need to run their systems and plants efficiently and effectively. The 2005 conference will include managers, engineers, and operators from utilities, government agencies, and consulting firms.

The AWWA is now accepting conference sponsorships and exhibit registrations. More information may be found on [www.awwa.org](http://www.awwa.org) or by calling (800) 926-7337 (USA only).

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## ICEC 5<sup>th</sup> World Congress: Call for Papers



The 1st International Cost Engineering Council (ICEC) and International Project Management Association Global Congress incorporating the **5<sup>th</sup> World Congress on Cost Engineering, Project Management, and Quantity Surveying** is approaching. We are glad to inform you that you can find the second announcement of this event including the call for papers on the website <http://www.icec-ipma2006.org>

This Congress is the cooperative joint Congress of the major world project management and cost engineering organizations addressing **Value Management – How to Ensure Value for Project Stakeholders**. It will be held in Ljubljana, Slovenia between 23 - 26 April 2006.



We are inviting professionals, managers and researchers to participate in this excellent international event.

Please inform the members of your national association and any colleagues who may be interested in attending this event.

For further information contact Alenka Kregar:

- E-mail - [alenska.kregar@cd-cc.si](mailto:alenska.kregar@cd-cc.si)
- Phone - 386 1 2417133
- Fax - 386 1 2417296

[Click here to go to the Congress website.](#)

*Dr. Brane Semolic*  
*President of the International Scientific Committee*  
*President of the Slovenian Project Management Association (ZPM)*  
*Vice Chairman of ICEC*

## ASME/AIChE Offer New Short Courses

Updating engineers and industry experts on the latest technological developments, the American Society of Mechanical Engineers (ASME) and the American Institute of Chemical Engineers (AIChE) are introducing a series of new short courses in three locations:

Location	Date	Series	Course
<b>Toronto, Canada</b>	May 23 – 24, 2005	<i>Chemical Engineering Essentials</i>	Near Infrared Spectroscopy & Process Analytical Technology
	May 26 – 27, 2005		Good Manufacturing Practice
	May 23 – 24, 2005	<i>Process Safety</i>	Management Systems—Health, Safety & Environment ((HSE)
<b>Chicago, Illinois USA</b>	June 13-14, 2005	<i>Chemical Engineering Essentials</i>	Flow of Solids in Bins, Hoppers, Chutes and Feeders
	June 15, 2005		Pneumatic Conveying of Bulk Solids
	June 16 – 17, 2005		Bulk Pharmaceutical & Chemical Process Development
	June 16 – 17, 2005		Head Exchanger Design Operation
	June 16 – 17, 2005		Fundamentals of Tableting for Chemical Engineers
	June 16 – 17, 2005		Essentials of Chemical Engineering
	June 13 – 15, 2005	<i>Plant Design &amp; Construction</i>	Pilot-Plant Design, Construction and Operation I
<b>Houston, Texas USA</b>	May 23 – 25, 2005	<i>Chemical Engineering Essentials</i>	Distillation in Practice
	May 26 – 27, 2005		Crystallization Operations
	May 26 – 27, 2005		Heat Exchanger Design
	May 23 – 24, 2005	<i>Process Safety</i>	Updating and Revalidating Process Hazard Analysis for OSHA PSM-Covered Processes
	May 23 – 27, 2005		Hazards Evaluation: Qualitative & Quantitative Methods of Reliability & Risk Assessment of CPI

May 26 – 27, 2005

Systems

Layer of Protection Analysis (LOPA): Achieving Tolerable Risk

Attendees will receive continuing education units. Discount rates are available to ASME and AIChE members. For further information or details about registration, contact: ASME Information Central at 1 (800) 843-2763 (United States and Canada) or (201) 882-1167 (telephone); (201) 882-1717 or (201) 882-5155 (fax); or email [infocentral@asme.org](mailto:infocentral@asme.org).

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## **SAE Offers Simplified Taguchi/DOE Methods Seminar**

**Date:** May 17 – 18, 2005  
November 9 – 10, 2005

**Location:** SAE Automotive Headquarters, Troy, Michigan USA

Today's companies need to do more with less, which means using the most efficient and effective methods. The Simplified Taguchi/DOE Methods Seminar equips attendees with a powerful set of Design of Experiments (DOE) tools by blending the philosophy of Taguchi with the simple graphical methods of Box, Hunter & Hunter.

Wide use of DOE methods has been hindered by complications in planning a DOE to handle interactions and by the complexity of the Analysis of Variance (ANOVA). A Preferred Columns Method simplifies planning so engineers can assign factors to an array in minutes. Graphical methods allow quality professionals to distinguish large (active) factors from small terms and portray these findings to broad audiences. By simplifying DOEs, road blocks are removed and more people can use these highly productive methods. Attendees will learn these easier-to-use methods for engineering design—resulting in greatly improved product quality, higher customer satisfaction, and lower costs for any product.

To register, visit the SAE website at [www.sae.org/seminarinfo.htm](http://www.sae.org/seminarinfo.htm) or call (877) 606-7323 toll free (USA and Canada only) or (724) 776-4970.

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## **Design for Sigma Summit 2005**

**Date:** Pre-conference Master Classes, 20 April 2005  
7<sup>th</sup> Annual Design Conference, 21 – 22 April 2005

**Location:** Le Meridien Hotel, Chicago, Illinois USA



Another chapter in the successful series of Six Sigma, the Chicago summit promises to bring together leading professionals that practice Six Sigma to share their knowledge and collectively raise capabilities.

Pre-conference master classes, held on 19 April 2005, include: “An Introduction to DfSS,” “How to Use and Apply Taguchi Techniques,” “Exploring Different Techniques for Gaining the VOC,” and “Incorporating Value Engineering into DfSS.”

Day 1 of the event will feature the following seminars:

- Discovering new techniques to ensure management buy-in for your project
- Exploring techniques for getting your customers to help formulate new designs
- Adopting innovative methods for gaining the VOC
- Parlez-vous design? Translating VOC into product design
- Quantifying and qualifying the VOC
- Getting your suppliers up to speed with Six Sigma
- Ensuring delivery—how to receive input from your suppliers

The DfSS sessions will be held in to tracks:

- (1) DfSS in automotive and in software design
- (2) DfSS in healthcare and defense

The second date will feature:

- “But this is the way we’ve always done it”—how to achieve real culture change within your organization
- Developing lean product and manufacturing processes through lean design for Six Sigma
- Delivering faster and better design
- Implementing techniques for improved robustness
- Tracked sessions
  - Delivering a more creative use of simulation tools to map out processes
  - Applying tools in practice: a technical session
  - Balancing investment in design with the product life-cycle
  - Learning from DfSS for service and transaction
  - Keeping your eye on the key issue—making sure you still cut costs through DfSS

IQPC invites SAVE International members to attend the following Six Sigma events. **SAVE International members will receive a 15% discount** on registration to these events.

### **7th Annual Design for Six Sigma 2005**

April 20-21, 2005, Le Meridien Hotel, Chicago

[www.sixsigmaiq.com/NA-2428/autosig](http://www.sixsigmaiq.com/NA-2428/autosig)

## 6th Annual European Six Sigma Summit...including the 2nd Annual Six Sigma Excellence Awards

April 26-29, 2005. Victoria Park Plaza, London

[www.sixsigmaiq.com/GB-2307/autosig](http://www.sixsigmaiq.com/GB-2307/autosig)

## 3rd Six Sigma for Financial Services

May 23-24, 2005. Le Parker Meridien, New York

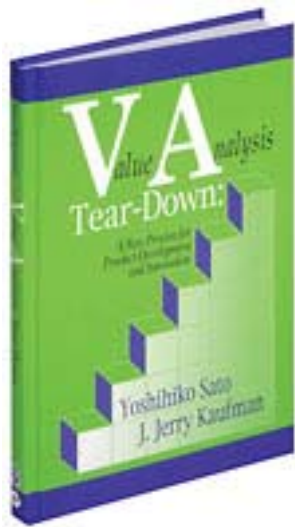
[www.sixsigmaiq.com/NA-2427/autosig](http://www.sixsigmaiq.com/NA-2427/autosig)

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# SUGGESTED READING

## Value Analysis Tear-Down: A New Process for Product Development and Innovation

*By Yoshihiko Sato and J. Jerry Kaufman*



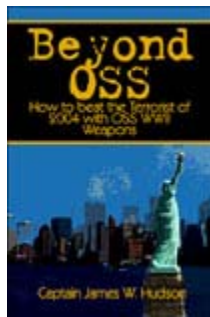
Value Analysis Tear-Down presents a new technology, first developed in Japan by Yoshihiko Sato, for improving existing products and creating new and better products. It combines traditional tear-down with the technologies of value analysis and value engineering. Within just a few years of its public announcement, value analysis tear-down was adopted by all 11 Japanese automobile manufacturers and many Japanese consumer electronics manufacturers as well. The process helps engineers and managers reduce costs, improve quality, continuously improve existing products, and discover opportunities for innovative change. This book is written specifically for professionals in product engineering, manufacturing engineering, and value engineering; and the managers of these professionals, including plant managers, production managers, manufacturing executives, and research and development executives.

Catalog number 1111699981.

Member price \$33.71; non-member price \$42.70

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## Beyond OSS



*By James W. Hudson*

Captain Jim Hudson, CVS-Life, a former OSS Senior Intelligence Officer and SAVE International member, challenges the US media to awaken the public and prevent the next terrorism-induced catastrophe. During World War II, Hudson completed 33 missions behind the enemy lines in Egypt, Albania, Austria, and Italy. After WWII he became a member of the National Press Club. In his book he suggests that the press may “seek the missing link in intelligence and discover that the real reason for the inability to prevent the next catastrophic incident is the lack of an awakened public participation.” The American press with its freedoms, he claims, is uniquely suited to awakening that public.

Relying Beyond OSS describes how American undercover agents behind the enemy lines in World War II could live in enemy occupied countries and maneuver amid strong opposition by armies and counter intelligence forces successfully, but they were virtually powerless when the civilian population became hostile. The corollary today is that an aroused civilian population can make America untenable for terrorists to operate successfully. Behind the lines the local community becomes the supply for everything needed to stay alive and productive. Beyond OSS lays out how the press might stimulate the American public to do just that.

*Beyond OSS* is available at [talesofwar.com](http://talesofwar.com) for \$25.00 US.

## Sale Books: Expand Your Library for Half Price!

For a limited time only, the SAVE International bookstore offers the following books at half price to members. To view book descriptions, go to the [online catalog](#). To place an order, use the [online order form](#). Quantities on many of these titles are limited!

Catalog Number	Title	Author	Member Price	Sale Price (members only)
1674401912	Designing Feedback: Performance Measures for Continuous Improvement	Carl G. Thor	\$18.00	<b>\$9.00</b>
115759079	Survey on Training Activities in Value Analysis	Commission of the European Communities	\$24.00	<b>\$12.00</b>
839396129	Methodology for the Value Analysis of Capital Investments	James W. Bryant, CVS, Editor	\$25.00	<b>\$12.50</b>
1801150253	Change Everything at Once!: The Tavistock Institute's Guide in Developing Teamwork in Manufacturing	Jean E. Nuemann, Richard Holti & Hilary Standing	\$48.00	<b>\$24.00</b>
1094050960	Absolute Honesty	Larry Johnson & Bob Phillips	\$25.00	<b>\$12.50</b>

<b>Catalog Number</b>	<b>Title</b>	<b>Author</b>	<b>Member Price</b>	<b>Sale Price (members only)</b>
SPECIAL	The Value Network: Integrating the Five Critical Processes that Create Customer Satisfaction	Louis J. DeRose	\$20.00	<b>\$10.00</b>
SPECIAL02	Value Selling	Louis J. DeRose	\$20.00	<b>\$10.00</b>
1548384713	Keeping the Competitive Edge with Value Analysis	Robert Brethen, Former President and Chief Executive Officer, Philips Industries Inc.	\$20.00	<b>\$10.00</b>
325944499	Creating Value for Customers: Designing and Implementing a Total Corporate Strategy	William A. Band	\$28.00	<b>\$14.00</b>
1879174048	Life Cycle Costing for Facilities, 2003	Alphonse J. Dell'Isola, PE, CVS and Stephen J. Kirk, FAIA, CVS	\$84.95	<b>\$42.48</b>
453387194	Innovate or Evaporate: Test & Improve Your Organizations Innovation Quotient	James M. Higgins, Ph.D.	\$16.95	<b>\$8.48</b>
91175630	Escape the Maze: 9 Steps to Personal Creativity	James M. Higgins, PhD	\$26.00	<b>\$13.00</b>
855316317	Mindmapping: Your Personal Guide to Exploring Creativity and Problem-Solving	Joyce Wycoff	\$16.00	<b>\$8.00</b>
1289719870	Uncertainty and Risk, Part 2 in a series in Least-Cost Energy Decisions for Buildings	National Institute of Standards and Technology	\$90.00	<b>\$45.00</b>
1445817996	Team & Techniques for World Class Improvement (Textbook)	Thomas R. King	\$13.20	<b>\$6.60</b>
1793243679	Team & Techniques for World Class Improvement (Workbook)	Thomas R. King	\$15.40	<b>\$7.70</b>
1396826494	Choosing Economic Evaluation Methods, Part III	U.S. Department of Commerce	\$20.00	<b>\$10.00</b>
656664909	Function Analysis: Stepping Stones to Good Value	Thomas Snodgrass, CVS & Muthiah Kasi, CVS	\$52.00	<b>\$26.00</b>
1537376805	The Chairman's Thoughts on nCost Improvement & Cost Improvement's Contribution to Financial Flexibility	Andre Horn	\$20.00	<b>\$10.00</b>
1622435124	The Value Analysis Process at Westinghouse	Jack H. Fooks	\$20.00	<b>\$10.00</b>

<b>Catalog Number</b>	<b>Title</b>	<b>Author</b>	<b>Member Price</b>	<b>Sale Price (members only)</b>
980552481	Value: The Success Criterion		\$20.00	<b>\$10.00</b>
1096635150	Value Analysis Handbook	Purchasing Magazine	\$50.00	<b>\$25.00</b>
1740766806	Manufacturing: A Competitive Weapon	Al Mattaliano, Staff Vice President, Manufacturing, Hughes Aircraft Co.	\$20.00	<b>\$10.00</b>
1094647937	Implementing Quality with a Customer Focus	David N. Griffiths	\$30.00	<b>\$15.00</b>
1064045818	TQM for Technical Groups	Kiyoshi Uchimaru, Susumu Okamoto & Bunteru Kurahara	\$42.00	<b>\$21.00</b>
1691666586	Advanced QFD: Linking Technology to Market and Company Needs	M. Larry Shillito	\$84.36	<b>\$42.18</b>
1719570327	Commit to Quality	Patrick L. Townsend & Joan E. Gebhardt	\$16.95	<b>\$8.48</b>
335485044	TQ Manager: A Practical Guide for Managing in a Total Quality Organization	Warren H. Schmidt & Jerome P. Finnigan	\$35.00	<b>\$17.50</b>
829137639	World-Class Quality and Productivity	William F. Christopher and Carl G. Thor	\$18.00	<b>\$9.00</b>
793286271	Management Application of Value Engineering for Business & Government	Donald Parker, CVS	\$45.00	<b>\$22.50</b>
1094050302	Value Management: Cost Reduction Strategies for the 1990s	Eric Adam	\$40.00	<b>\$20.00</b>
371647473	Concurrent Engineering: Shortening Lead Times, Raising Quality, and Lowering Costs	John R. Hartley	\$32.00	<b>\$16.00</b>
746896493	Value Management Incentive Programme: Innovations in Delivering Value	Nigel Standing	\$82.00	<b>\$41.00</b>
1247229444	If the Meek Shall Inherit the Earth, What Shall Become of Us Tigers?	Thomas R. King, CVS, FSAVE	\$7.00	<b>\$3.50</b>
1105466028	Training and Theory in Practice	W. Brendan Reddy and Clenard C. "Chip" Henderson, Jr., eds.	\$26.00	<b>\$13.00</b>
59189918	The European Market for Value Analysis		\$32.00	<b>\$16.00</b>