

2021 VIRTUAL Value Summit

SAVE International
Adding Value. Enhancing Ideas.

June 5 - 9, 2021

FINAL PROGRAM*

(Please note, all times are in Pacific Time)

Saturday, June 5, 2021

8:00 AM – 9:00 AM

MILES VALUE FOUNDATION ANNUAL MEETING

All registrants are invited to participate.

Link: <https://meet.google.com/wda-mhbb-pcj?hs=122&authuser=0>

12:30 PM – 5:00 PM

HALF DAY PRE-SUMMIT WORKSHOP

Developing Powerful Functions & FAST Diagrams

Instructor: Jim Bolton, CVS®-Life, PE, FSAVE, PVM, FINVEST (Bolton Value Consulting, LLC)

PDU: 4.0 hours / **Core Competency:** Function Analysis

This seminar will greatly enhance the understanding and utilization of the Value Methodology and the results that clients will experience with this powerful process.

This will be a hands-on workshop where some basic information on developing powerful functions will be given first and then all participants will be asked to develop their own Random Function Identification Worksheet on a project that is of interest to them. Sample projects will be assigned if participants in attendance have not selected a project.

Then some teaching about organizing functions will be presented and how the use of FAST Diagrams helps in the process. Then all workshop participants will develop their own FAST Diagrams on the project they have previously selected or been assigned to in the step above. We

will then compare the results of these FAST Diagrams together to ensure all Random Functions Identified were included and check the logic of the FAST Diagrams.

Finally, some information will be given on how to prioritize functions using various tools such as the Function Resource Matrix Worksheet and how the prioritized function will be used in the creativity and other phases of the VM Job Plan. This will be a workshop you will not want to miss out on as it is designed to support your unique needs.

During my 24 years of experience using the Value Methodology process, I have found tremendous results when properly developed functions and FAST Diagrams are utilized throughout the actual VM workshop with the multidisciplinary value study team.

Sunday, June 6, 2021

8:00 AM – 12:15 PM

HALF DAY PRE-SUMMIT WORKSHOP

Creative Techniques and Facilitation Training

Instructor: Amin Terouhid, PhD, PE, PMP, VMA (Adroit Project Consultants)

PDU: 4.0 hours / **Core Competency:** Team Facilitation

This training explores tools and techniques for concept generation and facilitation in group settings. The training focuses on 1) creative techniques for group cohesion and lateral thinking to evolve a team into a highly functional creative mindset; and 2) idea exploration or development processes to transform a particular idea into a refined and articulated concept, and 3) facilitation techniques to ensure the team performs well, team members collaborate effectively, and perform to reach a common objective in idea generation and assessment.

12:30 PM – 5:00 PM

HALF DAY PRE-SUMMIT WORKSHOP

Function Models: Beyond FAST

Instructors: James McCuish, CVS® (Pinnacle Results LLC) / Charles Jennings, AVS (Pinnacle Results LLC)

PDU: 4.0 hours / **Core Competency:** Function Analysis

Major concepts addressed are innovative application of FAST to improve Overall Business Process:

- How to Engage Multidiscipline teams and develop serious commitment to effective multidiscipline communications and interfaces using FAST
- How to interface labor and materials cost models to simulate as-is and to-be changes surrounding a proposed improvement
- How to introduce and use "Generic" FAST Diagrams
- How to enhance project and organizational management planning, delight teams and organizations in planning their work and Optimize Schedule

Typical project management tools such as GANTT charts and risk registers are not inherently constructive to identify potential information and resources interface management. Most project management tools are intended to identify and to control "project task" (execution).

The "how-why" logic of the FAST is much more useful to help the project team to capture existing information, alternative knowledge possibilities, and to accessible wisdom within the shareholder repertoire. The Organization Mapping / FAST model helps delivery knowledge management objectives such as:

- Identifying, developing, and spreading better practices faster
- Connecting project activities to self-organizing knowledge sharing networks of professional communities
- Fostering cross functional and divisional collaboration
- Increasing the ability to initiate and contribute to projects across organizational boundaries.

The FAST provides a basis to challenge conventional knowledge and wisdom. The structure of the FAST is foundational for implementing value improving practices and identifying value added alternatives.

Contemporary Organizations understand the power of such methods as Generic FAST & Organization Mapping FAST leading to resource loaded schedules and project development cost.

Monday, June 7, 2021

8:00 AM – 10:00 AM **BLOCK 1 – WELCOME / INTERNATIONAL PAPERS 1**
Monitor: John Corcoran, P.Eng., CVS® (Jacobs)

8:00 AM **Welcome Address**
 Renee Hoekstra, CVS® (RHA, LLC)
 SAVE International President

8:15 AM – 9:45 AM **INTERNATIONAL PAPERS 1**
 8:15 AM ***Estimate Reconciliation for Capital Construction Projects During a Value Engineering Workshop***
 Chongba Sherpa, VMA, CCM, LEED AP (VJ Associates)

PDU: 0.5 hours / **Core Competencies:** Value Methodology, Transform Information, Cost Analysis, Pre-Workshop Stage, Workshop Stage (Six-Phase VM Job Plan)

Accuracy of the project cost estimate is imperative for any VE team to providing value analysis. The design estimate should be adequately validated before embarking into all aspects of the JOB plan. This process of going over the independent estimate and design estimate in a controlled environment is called reconciliation. The VE team should be allowed to provide an independent estimate for the project they are embarking on prior to the workshop. It is important to remember there are two groups of distinct teams: VE team estimator and Design team estimator.

Who should be present during the reconciliation: All design estimators involved in the original design estimate, all VE team estimators involved in the independent estimate, design Project manager with access to their design team.

8:45 AM ***Development of Template for Outlining Science and Engineering Research Based on Functional Thinking in VE and TRIZ***
 Kiyohisa Nishiyama, PhD, VEL (Nagoya University, Graduate School of Engineering)

PDU: *Not offered for this presentation*

This paper aims to report the verification of a new template that outlines research for research paper, research proposal and other technical reports. The template, which is applicable for various science and engineering fields, is developed based on the theory of VE and TRIZ. In

recent years, higher education including master and doctoral programs has become more popular and larger number of students enroll the programs. Universities are currently required to make the students acquire higher skills as well as generating further research achievements. In addition, universities are working on research activities by finely segmentalizing various intellectual domains. Supervising students working in such research generates a situation where the supervisor must supervise students who work on research that are not completely agree with their expertise. In such cases, miscommunication between students and supervisors may waste a lot of time and deteriorate their relationships in the communication. Then, the authors have developed a template that outlines research for research paper, research proposal and other technical reports that may be applied across all science and engineering fields with VE and TRIZ as a solution to the problems. In this study, we examined the effectiveness of the template through tutorials and a workshop. In the tutorials and workshops, the template was introduced involving engineering students to instruct how to write research reports to observe their responses. As the results, many students responded positively to the template and, so, we concluded that the template works as an effective instruction for outlining research.

9:15 AM

New Method to Apply VM to Analyze the Use Function and the Esteem Function of Yakigurit
Keiko Ishii (Functional Approach Institute Company Limited)

PDU: 0.5 hours / Core Competency: Function Analysis

Many of the foods that we eat in our daily life have shells and peels. Among others, those with hard shells cannot be served unless the shells are removed from the edible parts at a certain point of their production procedure. Shelling as koto may take place at a factory or kitchen. It may also take place immediately before we eat those foods. Then, a question arises: why do many of us want to shell those foods as koto? For example, some fashionable bars serve shelled pistachios or shelled almonds. Indeed, the author's favorite bar serves shelled macadamia nuts. The shells of macadamia nuts are so hard that it requires a special shell cutter to eat them. Another example is nutcrackers that are made to look like a doll. The jaw of the doll is what is used to crack open hard shells. Many people use these dolls as a decoration. These dolls are also famous in a ballet musical. There is an aesthetic appeal other than just eating shelled foods for the different tastes that they provide. In other words, 'esteem' other than that of 'tasting' is hidden in these hard-shell foods when we eat them. Not only does 'eating' have a function to 'Satisfy hunger', but also it seems to have other functions totally different from 'Satisfy hunger'. Hence, the author has conducted a VM analysis on the relation between the use function and the esteem function of one such hard shell food Yakigurit, a product offered by a food service company that she works for. As a result, she has succeeded in devising a new method to clarify what effect foods generally have on their diners. This paper shares such a method, along with its related techniques.

9:45 AM

BREAK

10:00 AM – 12:00 PM

CIVIL INFRASTRUCTURE TRACK 1

Monitor: Steven Paget, CVS® (Sāzān Group)

10:00 AM

West Shore, Lake Pontchartrain, LA (WSLP) Flood Risk Management, FRM

John Eblen, PLA, VMA (U.S. Army Corps of Engineers)

PDU: Not offered for this presentation

This presentation will include a brief introduction of the Civil Works program at the New Orleans District, and an overview and history of the West Shore Lake Pontchartrain (WSLP) Project.

Presentation of the first and subsequent value studies conducted during the Feasibility planning effort with the VE recommendations and impact of those studies on the design process, and finally presentation and discussion of the strategy for the three recent VE studies, the unique features and final VE recommendations.

Location: The flood control study is located in southeast Louisiana on the east-bank of the Mississippi River in St. Charles, St. John the Baptist, and St. James Parishes.

Project Purpose: Over 60,000 people in the 3-Parish study area have little to no hurricane risk reduction in place. Additionally, the dominant evacuation route for the New Orleans metropolitan area (I-10) bisects the study area. During Hurricane Isaac in 2012, storm surge inundated approximately 7,000 homes and the interstate was submerged for several days slowing emergency response across the region. The Project will construct a 100-year level risk reduction system extending from the Bonnet Carre Spillway to Garyville, Louisiana.

Project Features: The \$760 million project is approximately 18.5 miles in length and includes 17.5 miles of levee, 1 mile of T-wall, 4 pumping stations, 2 drainage structures, and approximately 35 utility relocations. The project will also provide localized risk reduction measures focused in St. James Parish. The project will include mitigation to offset unavoidable environmental impacts.

10:30 AM

Negotiation Essentials

Washington Department of Transportation

PDU: Not offered for this presentation

Negotiation is where long term business relationships begin. This lesson provides a better understanding of the importance of successful negotiation skills for the project manager. Eight Key Steps are discussed and should be understood before negotiating a contract: Preparation, Discussion, Signaling, Proposing, Packaging, Bargaining, Closing and Agreeing.

- Theory of Negotiations
- Eight Step Approach, steps 1 – 3
- Eight Step Approach, steps 4 - 8

11:30 AM

Applying Value Engineering and Risk Management to the Kansas City Streetcar Main Street Extension Project

Mark Watson, PE, CVS®-LIFE®, PMP®, PMI-RMP® (HDR)

Trent Eakin, PE, PMI-RMP® (HDR)

PDU: 0.5 hours / Core Competency: Transform Information

The City of Kansas City, Missouri plans to extend the Kansas City Downtown Streetcar starter line from the current Union Station stop along Main Street for 3.5 miles to the Country Club Plaza and terminate at the University of Missouri-Kansas City (UMKC) campus. The project will also include six new streetcar transit vehicles, nine stations (including the already constructed Union Station), and an expansion and rehabilitation of existing administrative/maintenance and support facilities.

The VE process completed as part of the Preliminary Engineering phase served as a first step and an important formal milestone in the on-going design philosophy of the project team. Both the recommended alternatives and general alternatives discussed and reviewed during the Preliminary Engineering VE workshop served as a guide for future design decisions as the project entered the Engineering Phase of the New Starts program. In an effort to best leverage the advantages of the Construction Manager at Risk (CMAR) delivery method; early input from the

selected contractor based on their review of the Preliminary Engineering scope documents was incorporated during a subsequent CMAR VE workshop.

The project also used risk management to develop an initial set of risks to both cost and schedule, as well as the development of risk response strategies. The analysis performed based on this data was then utilized to capture the risk adjusted cost and schedule results of the project, thereby aiding in the development of the appropriate contingencies for both cost and schedule along with risk-based cost and schedule estimates.

12:00 PM – 1:00 PM

LUNCH

1:00 PM – 3:00 PM

BLOCK 2 – CIVIL INFRASTRUCTURE TRACK 2

Monitor: Blane Long, CVS® (HDR, Inc.)

1:00 PM

Implementation of Value Engineering Proposal Saved Around SR 400 Million in Sewer System in the Kingdom of Saudi Arabia

Mohammed Halawani. P.Eng. (Royal Commission (KSA))

PDU: Not offered for this presentation

The paper shows the proper development of accepted proposals and how it could demonstrate the effectiveness of implementing the idea, moreover, it emphasizes on the application of successful ideas on other related projects of the royal commission of Jubail & Yanbu value program to achieve the value improvement in governmental or semi-governmental section through managing a value program.

- The total cost of this project was estimated at SAR 312 million.
- The Value Engineering (VE) Study provided an overview of the project, key findings, recommendations and the ideas developed by the VE Team. Detailed documentation, analysis and recommendations of the study were provided in this VE Study Report.
- The VE team generated 72 ideas during the creative phase (brainstorming session) of the VE study out of which 20 ideas were developed and some of them were listed as recommendations (R).
- It was noted that one of the ideas had a major cost saving that if implemented could save 400 million SR. kingdom wide Royal commission in green area.

1:30 PM

SR 525 Mukilteo Multimodal Terminal Story

Charlie Torres (Washington DOT)

PDU: Not offered for this presentation

The Mukilteo/Clinton ferry route is part of State Route 525, the major transportation corridor connecting Whidbey Island to the Seattle-Everett metropolitan area. It is one of the state's busiest routes, with more than 4 million total riders every year. By 2040, walk-on ridership during the peak afternoon commute is expected to increase 124 percent (2010-2040).

The site that used to house an abandoned U.S. Air Force fueling station will soon be home to a ferry building designed to be light on the earth and LEED Gold certified. Removing that old fueling pier also eliminated thousands of tons of toxic creosote-treated debris from Puget Sound. The existing ferry terminal remains open and the Mukilteo/Clinton ferry service unchanged during construction.

See how Value Engineering was a foundational and complementary practice that resonated through completion of design and construction. design evolution - 2011 to 2020 VE = REFINE

SCOPE RA = REFINE EXPECTATIONS

2:00 PM

Linear Scheduling for Civil Infrastructure Projects

Lorne Duncan (President & CEO, Petroglyph)

PDU: Not offered for this presentation

Use of Linear Scheduling with Civil Infrastructure projects to enhance project value and reduce risk.

2:30 PM

A Range Scale of Value Engineering Study Implementation Strategies

James McCuish, CVS® PSM PSPO (Pinnacle Results LLC)

Charles Jennings, AVS (Pinnacle Results LLC)

PDU: 0.5 hours / Core Competency: Value Methodology, Team Facilitation, Cost Analysis, Pre-Workshop Stage, Post-Workshop Stage

This paper presents a New Scale to engage Clients and Project Teams to uncover their Strategies for VE Implementation.

While conducting value engineering studies, and other project improvement engagements, we have found there is a broad range of client expectations, and client commitment to allocation of resources and funding for the engagements.

Often, this spectra of expectations and commitment is not apparent in the initial client discussions. And in many cases the client expectation and commitment is misaligned with the value engineering practitioner or consultant assumptions as to the precise client focus. In many cases the experience value engineering practitioner only takes a very short time to understand the level of commitment which will be necessary to make a major impact on the return of investment for the project. However, over the years in far too many cases, due to variations in the client commitment of resources practitioners deliver good results, which could have been superlative results with incrementally more client commitment.

3:00 PM

BREAK

3:15 PM – 5:15 PM

BLOCK 3 – INTERACTIVE PROFESSIONAL DEVELOPMENT (IPD) SESSION / SAVE BUSINESS MEETING AWARD CEREMONY / HAPPY HOUR / NETWORKING

Monitor: Giuseppe Nespoli, MSOD, VMA (Value Management Strategies, Inc.)

INTERACTIVE PROFESSIONAL DEVELOPMENT (IPD) SESSION: *Application of Critical Variance Risk Analysis to Cost Estimates*

Monitor: Giuseppe Nespoli, MSOD, VMA (Value Management Strategies, Inc.)

Presenter: Gregory Brink, CVS®, PMP, PMI-RMP, PMI-PBA, CCEA, ENV SP (Value Management Strategies, Inc.)

PDU: 2.0 hours / Core Competency: Cost Analysis

Critical Variance Risk Analysis is a method used for conducting risk-based estimation of project contingency amounts for projects that represent a significant capital cost to an organization or have a significant risk profile. This method allows organizations to improve the efficacy and reliability in risk-based contingency modeling and analysis by identifying the largest risk exposures to a project and weighting these items higher when estimating appropriate levels of contingency. This is important for ensuring risks that will create the largest impact to the project

are appropriately accounted for in the project contingency.

This Interactive Professional Development session will cover applications and techniques of the Critical Variance Risk Analysis methodology, as well as teach participants how and when to apply this method for determining project contingency. Applying Critical Variance Risk Analysis can result in heightened understanding of the degree of risk exposure and improved reliability in contingency estimation on projects. This technique facilitates an informed analysis, improved risk management, clarity in decision making in capital project budget development, and improved capabilities to manage project Value.

5:15 PM **BREAK**

5:30 PM – 6:00 PM **SAVE BUSINESS MEETING**

6:00 PM – 7:00 PM **BLOCK 3 – AWARD CEREMONY / HAPPY HOUR / NETWORKING**

Tuesday, June 8, 2021

5:00 AM – 7:00 AM **BLOCK 4 – PAPERS FROM INDIA**

Monitor: Arjunraj Panneerselvam, CVS® (Technical, Innovation and VAVE Consultant)

5:00 AM **Indian Value Engineering Society (INVEST) Presentation**

Naveen Kumar, VMA (Indian Value Engineering Society (INVEST))

5:15 AM ***VE in the Supply and Demand of Systems***

Abraham Lukose (Atina Systems)

PDU: 0.5 hours / **Core Competency:** Value Methodology

We often fail to anticipate the entire series of cause-and-effect relationships that follow from a particular decision. Systems Engineering can overcome this challenge by helping us view our actions in the context of a larger system. One such approach is to overlay a supply/demand structure to a system in which an ability to supply a good or service is being balanced with the demand, utilization, or consumption of that product or service. (Goodman & Lannon) All stakeholders of a system belong to either the demand sub-system or the supply sub-system and seek benefit from it. Based on causal relationships these sub-systems drive a system towards balance. Curating a system that serves the needs and desires of its stakeholders requires proactive decision making and a comprehensive understanding of these systems. The ability of systems thinking to provide a third person perspective of an entire system enables it to be a practical stakeholder-inclusive decision-making tool. To add to this, this paper has attempted to improve systems thinking by:

- Splitting a system into Supply and Demand sub-systems
- Employing FAST Diagrams to structure these sub-systems as the functions of Supply and Demand

The authors believe that this approach can be used across various systems and would drive effective decision making within these systems.

5:45 AM

Cost Intelligence Through Teardown & Benchmarking – VE Approach

Bhaskar Padalkar (John Deere India)

PDU: 0.5 hours / Core Competency: Transform Information, Cost Analysis

With the latest focus on high-end technology, we can see products are equipped with highly engineered components. The contribution of spend on purchasing this type of parts is more than ~ 50% of the total spend. To control cost of these type of parts as a core competency every Product Manufacturing company is analyzing & estimating supplier design parts used on the specific products/ Machines with available cost analysis and cost management tools. This is developed by referring teardown data of these parts and business insights of the component vendors.

This paper throws more light on steps to follow benchmarking with Value Methodology to understand what industry is using on products/machines for given applications. For improved accuracy in estimating the costs various inputs gets validated step by step in terms of available data. Additionally, we can plug in insights by tear down and benchmarking of the specific components. This paper aims to scaling up current cost management tools to improve the accuracy on cost control methods with additional insights by benchmarking to enhance the core competency. This paper highlights the improvements in current methods of benchmarking and cost analysis with Value Methodology and lastly establish how this approach of recommendations of alternative designs and offerings available in market with best-in-class cost structure will yield up to 30% cost reduction opportunities to propel the cost improvement drive across the industry.

6:15 AM

Value Improvement Approaches in Manufacturing

Arun Kumar Bhatnagar, VMA, CENG, MICE (Tata Steel)

PDU: 0.5 hours / Core Competency: Value Methodology, Function Analysis, Cost Analysis

In manufacturing process, we come across various losses which restrict the business to become effective. Organizations need to fully understand all the manufacturing losses and their costs associated to bring about the focused improvement activities and to improve value in the manufacturing process.

Manufacturing is getting more and more challenging and complex due to shorter product life cycle, high mixed with low volume production situation, low equipment performance and volatile customer demand. There-fore productivity becomes the key factor for company to become competitive so that the organization faces least threats and able to translate business effectively.

A perfect utilization of God hour, i.e. 24x7 hours improves the availability of equipment if the losses are well captured and addressed scientifically. The instant actions and controls enable the manufacturer to become fast, flexible and agile to respond customer volatile demand.

Down time of machine in manufacturing process is any point of time when machine is not available for production. This downtime time categorized as different type of losses. Every loss can be converted into cost associated with to calculate the amount of opportunity loss business has suffered. Thereby it is possible to focus on improvements required to increase value in the manufacturing if it is made clear to understand the process and its effectiveness.

Value Engineering (VE) concepts can be applied to business and its process to get results-oriented decisions. It is a fantastic process that enable us to have complete understanding of the system, process in terms of value, alternate solutions, alternate material, manufacturing process

VE functional approach to bring about the value improvement in the process is very effective tool. Understanding the functions involve in the production and services gives a clear idea about

the nonvalue added activities and the activities that requires focus to improve value in the process. This also set the goals to proceed in logical way. It is also possible to link the functional cost of all the losses related to manufacturing using FAST diagram.

As we understand $VALUE = FUNCTION / COST$

So, improvement in function with reduced cost can bring value in the process of manufacturing where losses can be minimized or eliminated. This paper here is to brief the idea of linking the losses with functional approach to solve and bring changes in cost associated with the losses.

6:45 AM **BREAK**

7:00 AM – 9:00 AM **BLOCK 5 – PAPERS FROM THE MIDDLE EAST 1**

Monitor: Anita Lukose (Atina Systems)

7:00 AM **Gulf Chapter Presentation**

Abdulaziz Al-Yousefi, CVS®-Life, FSAVE (Al-Yousefi Value Engineering)

7:15 AM ***Acting on Low Emission Zone Plans during COVID-19 Crises Using Value Analysis Approach***

Tarkan Alisoltani, PhD Candidate, University of Tehran

Amin Sarang, PhD of Civil Eng., DBA, P. Eng., PMP, VMA (Smart Phase One Corp.)

PDU: 0.5 hours / **Core Competency:** Value Methodology

Deciding on urban management issues related to citizens' health such as air pollution reduction plans has significant importance. Especially when an outbreak coincidence, adopting an integrated management policy and a comprehensive decision-making process is necessary. Suspension and resumption traffic and clean air schemes in cities such as Low Emission Zone (LEZ) implementation in the period of COVID-19 pandemic and the exacerbating effect of air pollution on COVID-19 infection risk is of that kind with an ongoing concern of societies of its outcomes. In this study, a multi-criteria decision-making approach through the value management process is implemented to act on traffic and air pollution reduction schemes as a response to the unprecedented crises of COVID-19 in the city of Tehran. The result of NOx pollutant analysis showed 17.5% reduction as the result of COVID-19 lockdown and postponing LEZ restrictions within its stations in comparison to the last four years. Besides, the cost analysis estimated an increase in air pollution morbidity and social distancing cost in implementing LEZ scenario in comparison to postpone it. The proposed alternative of VM methodology was a suggestion of increasing the allowed entrance days in a season, which will mitigate the public transport demand.

7:45 AM ***Adding Value + to Complex Project Solution Development***

Sudhir Kumar, VMA (Jacobs)

PDU: 0.5 hours / **Core Competency:** Value Methodology

Although average annual rainfall in most of Middle East countries is deficient, stormwater management is a serious issue in most of its urban cities. The Author is currently working on a multibillion-dollar strategic stormwater management scheme covering a large 500 km² of an urban area. Value Engineering studies at the design stage are part of the scope of this project. The optioneering stage followed the three guiding principles of Value Methodology (VM) in the identification, screening, development and evaluation of alternative options and selection of optimum strategic stormwater scheme. The application of VM concept at the optioneering stage was a Value+ addition to the complex project solution development.

8:15 AM ***Sustainable Result-Based Management Projects Using VM Techniques***

Tareq Rasheed Mohammad, PhD (United Nations)

PDU: 0.5 hours / Core Competency: Value Methodology

In highly competitive markets, and in a world of globalization and rapid change, traditional project management techniques and tools have to be updated, modernized, and some to be excluded. The world of Artificial Intelligence (AI), Internet of things, Virtual and Augmented Reality (VR & AR), Big Data, and technology-based solutions, products, and services require new techniques and tools. This paper addresses the integration of Result- Based Management cycle and result chain concept with techniques and tools of Value Management and Engineering to set a guideline for designing, planning, implementing, and evaluating a sustainable, project-based deliverables. The United Nations in its 2015 agenda introduces the concept of Sustainability through the issuing of its 17 SDG's (Sustainable Development Goals) for a better future on the planet and for sustainable cities and communities for people to live. Introducing the 9 nine criteria in this paper to evaluate based on the Weighted Matrix Technique of evaluation which will help achieving sustainability in projects deliverables through the result chain of these project deliverables on short term, intermediate term, and strategic impact.

8:45 AM **BREAK**

9:00 AM – 11:00 AM **BLOCK 6 – PAPERS FROM THE MIDDLE EAST 1**

Monitor: Hussien AL-Battaineh, Ph.D., P.Eng., CVS® (EHAN Engineering)

9:00 AM **Value Analysis Canada (VAC) Presentation**

Michael Tozer, P.Eng., VMA (Enbridge)

9:15 AM ***Agility of Value Methodology***

Jacqueline Fahmy, PhD, PMP, CSSBB, CVS® (VECG Value Engineering Consultants Group)

PDU: 0.5 hours / Core Competency: Value Methodology, Value Program

Due to the continuous needs to improve the value, Value Methodology has been practiced for more than 60 years in several industries, especially construction.

The concept of value cares for both the customer's needs and the organization's interests in better using the available resources to satisfy these needs. VM also focuses on the idea of a function as the means to describe the customer's needs and wants which will be detailed in a manner to broaden the understanding of the problem or opportunity in such a way that it drives the generation of creative alternatives.

On the other hand, Agile is mindset that has been enthusiastically welcomed by many industries due to the ability to manage changes, increase team productivity, customer satisfaction, effectiveness in resolving unexpected risks. Many Agile-related topics had successfully discussed its application in other industries, like but not limited to construction, manufacturing...etc.

The main objective of this study is to highlight the agility of value methodology and how it could serve Agile practitioner delivering only what the client consider has the maximum value.

9:45 AM ***Enhancing the Performance of Value Methodology Using Key Performance Indicators and Success Factors***

Ahmed Aly, PEng, CVS®, PMP (VE Experts for Value Engineering Consultancy & Training)

May Emam, PEng, VMA (VE Experts for Value Engineering Consultancy & Training)

PDU: 0.5 hours / Core Competency: Value Methodology

Value methodology (VM) enhances the value of different sectors. However, presently there is notool available to measure the performance of VM. Hence, this research was aimed to investigatethe key performance indicators (KPIs) of VM job plan. A rigorous measurement on the performance of VM studies is likely to improve the implementation of the VM and enhance the confidence of clients about their investment in it. We also found that Critical success factors can be used in value methodology workshops to determine the client value system, which in turn is critically important to the briefing process and the successful delivery of construction projects. This study aims to identify the key indicators and Critical Success Factors (CSFs) for evaluating the performance of VM practices in construction industry. An acceptable VM study must follow VM job plan entirely (includes all phases of workshop activities) will require proof via results of various phases. All these results must be measured as what you cannot measure you cannot manage. The present work attempts to identify critical success factors (CSFs) influencing the performance of development projects based on their key performance indicators (KPIs). We should apply the proper technique to achieve the expected outcome of the Value Methodology.

10:15 AM ***Design of Sustainable Buildings Through Value Engineering Methodology***
Sherif Hammam, VMA (ICPM Group)

PDU: 0.5 hours / Core Competency: Value Program

Sustainability of current and new developments has become a major issue facing policymakers, developers, city and urban planners, and designers worldwide. Each new construction project entails, among others, the use of natural materials and the consumption of energy, which have a tremendous impact on the built environment over decades, and their environmental consequences only become fully apparent to future generations. The impact of construction projects on environment is especially significant in developing countries. The deterioration of building systems – including building materials – attributes to the economic, cultural and environmental problem, which is related to and affects the sustainable development of any society. In addition, developing countries have suffered for a long time from overlooking or underestimating the basic requirements that must be considered for designing sustainable developments. This article attempts to propose a practical solution for designing sustainable developments by focusing on the building as the primary unit. First, this article presents the requirements for designing a sustainable building, as well as the current process for selecting sustainable building systems and materials. Second, this article describes the Value Engineering program, including the different phases of the job plan. Finally, this article proposes a method for improving building sustainability. The proposed method utilizes the job plan of the Value Engineering program – together with a database that contains up-to-date information on construction systems and materials – as a gear for studying and analyzing the sustainability requirements.

10:45 AM **BREAK**

11:00 AM – 1:00 PM **BLOCK 7 – PAPERS FROM EUROPE**
Monitor: Warren Knoles, P.Eng., CVS® (Crawford, Murphy & Tilly, Inc.)

11:00 AM **Hungarian Affiliate (SHVA) Presentation**
Istvan Tarjani, FSAVE, CVS®, PVM, TVM, CMC (Society of Hungarian Value Analysts)

11:15 AM

Collaborate with Suppliers...Work in Multidisciplinary Team Outside Company Boundaries

Paola Mainardi, VMA (Baker Hughes)

PDU: 0.5 hours / Core Competency: Value Methodology

After several year of contrition due to oil price reduction, the Oil & Gas market is recovering with new investments and projects, either public or private. We named a few of 2019, as the East Natuna Block (Natuna D-Alpha) Project in Indonesia with \$30bn, Pengerang Refinery and Petrochemical Integrated Development (RAPID) with \$27bn in Malaysia and the Zhoushan (Zhejiang) Refinery and Petrochemical Complex (Phases 1 and 2) in China with an investment of \$25bn.

Despite it, main equipment suppliers are playing in a very competitive market, with specific focus on capex and opex cost.

Baker Huges Nuovo Pignone is investing in new technology and in cost out program to meet Customer needs and maintain the company solidity. Multidisciplinary team with different expertise from different functions, such as Engineering, Supply Chain and Product Leadership are putting in place to innovate and to find cost out ideas to be implemented following different methodology such as 3P, Value Methodology, Triz, etc.

The collaboration with Suppliers is crucial to extend the knowledge and learn outside Company boundaries.

In fact, they are involved in the design basically with 2 approach: built to print or built to specification, that cause a different level of impact in selecting solutions and therefore in cost.

For this reason, Suppliers have been involved in several waves of worldwide conferences ideas contest or on specific Customer projects, to find alternative way to produce or design to reduce costs, without impact on safety and quality.

The paper will describe two real business cases where Suppliers have been involved in Value methodology workshops. One Supplier design with built to print approach, the other with built to specification. Advantages and disadvantages will be highlighted with a final guideline on how and when it is value added the involvement of a supplier.

11:45 AM

Value Engineering Supported Software Development for Measuring the Unity Between Players

Istvan Tarjani, FSAVE, CVS®, PVM, TVM, CMC (Society of Hungarian Value Analysts)

PDU: 0.5 hours / Core Competency: Transform Information, Function Analysis, Pre-Workshop Stage, Workshop Stage (Six-Phase VM Job Plan)

This study describes the development of a software with the support of value engineering. Using the Value Methodology (VM) in software development has a great perspective for two main reasons. These are the large number of software module developments worldwide and the high level of innovation in software development. The software development industry is currently exploding. With the advancement of the IT sector, software is increasingly needed for more and more purposes. Such rapid development generates increasing difficulties in the labor market, more and more IT professionals are needed everywhere, therefore it is essential to make software development processes more efficient.

The software presented in the paper has no similar predecessor and holds the future of training players in team sports. The study introduces the training tool and its associated software product, addresses the challenges of the software development industry, and how value analysis can contribute to this field. Next, the software is discussed ad a disruptive innovation with its difficulties, and how value analysis can support handling these challenges. Finally, the

value analysis project is presented. During the work, the six-step job plan was applied. Each phase, their contribution to the software development and their results are discussed separately.

12:15 PM **Cost – Rate of Return – Value**
Zsuzsanna Szeles, PhD (Budapest Metropolitan University)

PDU: 0.5 hours / Core Competency: Cost Analysis

Nowadays, in a global economy characterized by growing competition, even market leaders struggle to achieve target growth rates through innovation. Product costs are associated with the manufacture of goods or the provision of services. In accounting, the functional classification is the cost classification required for external reporting. We can classify costs from different points of view and one of these views can be the function. What the function is and how we can identify, classify and organize the functions. Knowing a product's functions and the cost to produce the functions is imperative to meeting the needs and demands of the customer. The main purpose of function analysis is to identify the greatest opportunity for value improvement. The value management helps companies to recognize hidden reserves for competitiveness and sustainable growth in performance, profitability, efficiency.

12:45 PM **BREAK**

1:00 PM – 2:00 PM **LUNCH**

2:00 PM – 6:00 PM **BLOCK 8 – PAPERS FROM ASIA 1**
Monitor: Rock J Antonios, P.Eng (Wsp)

2:00 PM **Society of Korean Value Methodology (SKVM) Presentation**
Kui-Yong Choi, CVS®-Life (Society of Korean Value Methodology (SKVM))

2:15 PM **Introduction of Strategic Value Engineering System for Large Scale Mega Hub Airport Construction Project**
Jong-Hyeon Kim, PhD, P.Eng., PMP (PMI) (Incheon International Airport Corporation)

PDU: 0.5 hours / Core Competency: Value Methodology

The large-scale mega hub airport is a gateway to comprehensive evaluation of the country's culture, art, economy, technology, etc. Integrated management by the best project management professional organization is required for the successful execution of the airport construction project composed of complex construction types. In particular, the systematic introduction and application of Value Engineering should secure the economic feasibility of the project and secure quality competitiveness through function and value improvement. For the strategic promotion of VE, IIA established a sustainable development system by operating an organization dedicated to VE, establishing guidelines and manuals, forming a pool of experts in each field (private and public institutions), activating the Value Engineering Change Proposal, organizing VE competitions open to the general public, strengthening VE performance verification, supporting VE video conferencing, diversifying VE operating techniques and establishing a database.

2:45 PM **BREAK**

3:00 PM **Society of Japanese Value Engineering (SJVE) Presentation**

- 3:15 PM Tamotsu Saito (Society of Japanese Value Engineering (SJVE))
Development of a Strategic Human Resource Utilization Method “SEE Theoretical Methodology” Through Function Analysis
 Noriko Murakami (Legend Consulting Co., Ltd.)
 PDUs: 0.5 hours / Core Competency: Function Analysis
- This paper shows a development a new methodology through functional analysis of "human resources management", which deals the "Koto" and "human", which is a field that has been difficult to analyze essentially. Technically, as for "Function Analysis", it will be a reference for "Define functions" and "FAST Diagrams" especially in the case of "Koto" analysis. In addition, by showing the usefulness of application to organizational development, it will be a reference for points of view and efforts for more expanded VM application such as "business process" and "service". By knowing the wide range of versatility of VM, it greatly shows the potential of VM application fields.
- 3:45 PM ***Effective Application of VM in a Multi-Store Management Company***
 Kazuhiro Fukae (Higuchi Group)
 PDUs: 0.5 hours / Core Competency: Value Program
- To solve the problems faced by multi-store management companies, we propose an excellent VM application program resulting from the functional analysis of business activities.
- 4:15 PM ***Proposing 'Time Integration Method' to Quantify Ever-Changing Value with Time – Through Three Case Studies***
 Hisaya Yokota, CVS®, FSAVE, PEng, CMC (Functional Approach Institute Co., Ltd.)
 PDUs: *Not offered for this presentation*
- This paper proposes a new concept of "value that every value specialist around the world is already aware of." Its most critical point lies in how we can possibly grasp ever-changing value as times go by. Only after he had conducted numerous studies on the service industry, did the author notice this very "nature" of value, which differs from that in the manufacturing industry. Above all, its performance may vary significantly. The author had endeavored formulating this ever-changing performance into a numerical model through logical approaches and did finally succeed in doing so.
- 4:45 PM **BREAK**
- 5:00 PM – 7:15 PM **BLOCK 9 – PAPERS FROM ASIA 2**
Monitor: Amin Sarang, PhD of Civil Eng., DBA, P. Eng., PMP, VMA (Smart Phase One Corp.)
- 5:00 PM ***Proposing 'Function Layout Matrix' Method for Optimizing the Office Design***
 Daisuke Kaida (Higuchi Group)
 PDUs: 0.5 hours / Core Competency: Function Analysis, Cost Analysis
- This study proposes a new method to design one's office with a special focus on its important functions. It enables one to visualize cost allocation for each area of one's office, based on its ideal functional achievement. The office's function changes as its company grows. This can be interpreted that the office does exist for its company's growth, not just for its employees. In response to this, its layout should be modified along with its company's growth. By understanding what phase one's company's growth stands in and by altering its office layout

accordingly, one can achieve the growth of one's company more effectively and efficiently.

5:30 PM ***Application of "Multiple Cost Analysis" as a Human Resources Development Method for Middle Management and Its Measures***

Tomohisa Kakiyama (Higuchi Group)

PDU: Not offered for this presentation

This paper presents "multiple cost analysis" – a VE application for developing 'middle management' by three key functions: 'work performance', 'work environment', and 'work motive'. The paper also describes a case study and its effect. There are many cases where VE subjects bear multiple costs: These multiple costs have variable composition ratios and influences. Considering these components, this author has developed a method for proposing effective alternatives for developing 'middle management'.

6:00 PM ***Organizational Improvement of Individual Knowledge with FAST and TRIZ Techniques***

Takeshi Morishita (Mitsubishi Power, Ltd.)

Shoji Yoshida (Mitsubishi Power, Ltd.)

Koichi Akagi PE, CVS® (Mitsubishi Power, Ltd.)

PDU: 0.5 hours / Core Competency: Function Analysis

The challenge facing our manufacturing industry is to digitize and systematize high-quality data at the manufacturing site and knowledge of individuals depending on their ability, to systematize them into knowledge assets and to reconstruct a new "Genbaryoku (problem finding and solving capabilities at the manufacturing site)". The authors are working on to convert the information at the manufacturing site and the knowledge of individuals depending on their ability into explicit knowledge and to transform such knowledge into knowledge assets as work process information. Naturally, this work process information must be available for organizational improvement activities. In this paper, a method of generating improvement ideas from work process information through FAST diagrams and TRIZ techniques is proposed with the aim of organizationally improving knowledge of individuals depending on their ability. In addition, the verification results of these case studies are reported.

6:30 PM ***The Possibility of VE and MOT Techniques in Various Innovation Activities***

Manabu Sawaguchi, PhD, CVS® (Value Innovation Institute Co. Ltd.)

PDU: 0.5 hours / Core Competency: Value Methodology

At the 47th VE Kansai Conference (in 2016), the authors conducted a questionnaire survey on innovation to the conference participants. In this paper, the authors show that there is a high potential for MOT (Management of Technology) techniques such as VE to be fulfilled in various innovation activities from the analysis of this survey result. And, in the last part of it, an actual case at a manufacturing company (Mitsubishi Hitachi Power Systems) regarding "process innovation" is introduced.

7:15 PM **BREAK**

7:15 PM – 9:15 PM **BLOCK 10 – PAPERS FROM ASIA 3**

Monitor: David Eisenberg, CVS®, CSSBB, CMQ/OE, CQA (Value Management Strategies, Inc.)

7:15 PM **Hong Kong Institute of Value Management (HKIVM) Presentation**

Mei-Yung Leung, PhD, CVS® (City University of Hong Kong)

7:30 PM

Apply Systematic Value Engineering Methodology to Assess the Value of Building Construction Project

Qi Liang, PhD (Southwest Petroleum University) / Hong Liang, Masters Candidate (Southwest Petroleum University)

PDU: 0.5 hours / Core Competency: Value Methodology, Function Analysis

Cost has long been one of the project management objectives. Every building project is unique, and building cost vary significantly along with differences in materials, structure types, clients' requirements, project characteristics, and so on. This makes direct comparison of the building cost for projects impossible and unreliable. Current study aimed to apply a value engineering methodological approach to allow for comparison of building cost for projects with different characteristics. Mixed research method was designed to achieve the research purpose, including interview with experienced construction professionals and case studies for real building projects. Algorithms were proposed to process and analyze the data regarding the building cost and the function performance of the building elements. The research results demonstrated that the difference in the building element cost was significant between two projects, which made it possible for comparison of function cost in later stage. By applying the proposed algorithms, the element cost was transferred to function cost in according to construction professionals' evaluation. The function cost of the two projects were compared, and based on the concept of value index, the project 2 has better value than the project 1 does. This paper contributed to propose a value engineering methodological approach for the comparison of building cost for projects with varying characteristics.

8:00 PM

Exploring Value Management Practices in Regions Along the Belt and Road

Xiaoyi Wei, PhD Candidate (City University of Hong Kong) / Mei-Yung Leung, PhD, CVS® (City University of Hong Kong)

PDU: Not offered for this presentation

Value management (VM) as a decision-making approach organized by multi-disciplinary members may be used to achieve the best value of the project and satisfy the requirement of the clients in the construction projects in the Belt and Road (B&R) regions. However, most of the developing countries along the B&R regions are still lack of VM knowledge during the complicated team decision-making process. This study proposes some insightful recommendations for promoting VM to the countries along the B&R regions. In order to investigate the current VM practices and the possible challenge factors influencing the VM application, face to face semi-interviews with VM and project management experts in different countries (including, Hong Kong, Malaysia, the US and Sri Lanka) were conducted. Through the qualitative analysis, some factors of VM application related to pre-workshop (objectives setting, process identification and stakeholder), workshop (information, analysis, creativity, evaluation, development and presentation) and recommendations (awareness improvement, VM education, senior support and standard application) were extracted. The comparison of the qualitative results between those four countries showed that the US practitioners had the most experience on VM implementation and innovative VM techniques application, whilst Hong Kong and Malaysia practitioners still had rooms to be improved. VM workshops were never arranged independently, while it was just used as a cost reduction tool in Sri Lanka. Based on the qualitative results, practical recommendations were put forward, including using SAVE standards, gaining senior supports, organizing various VM seminars and training, and offering VM courses in college education, and building close relationships with other countries in order to gain advanced VM techniques and promote VM properly in the construction industry.

8:30 PM

Value Management in Africa: A Literature Review

Lekan Damilola Ojo (City University of Hong Kong) / Mei-Yung Leung, PhD, CVS® (City University of Hong Kong)

PDU: 0.5 hours / Core Competency: Value Methodology

Previous research revealed that construction projects in African countries fundamentally suffers from poor project outcomes. This implies that value management (VM) technique could be of immense benefits to the continent. However, knowledge of VM technique and its associated benefits are grossly insufficient among construction professionals in the continent. There is also a pretext that there is considerable number of indigenous VM experts in African countries, in which the assertion cannot be verified. This study therefore conducted a critical review of VM application on construction projects in Africa with articles obtained from Web of Science (WoS) and Scopus databases. The articles were composed of research conducted in Egypt, South Africa, Nigeria, and Ghana. The study revealed that VM had been introduced to South Africa for over 5-decade; however, the level of knowledge of VM and its application in the country is still very low. VM applications on construction projects in Egypt were most technical in African countries. The study also showed that Egypt is the only African country with functional VM institute. Therefore, this study recommended that all African countries should collaborate with VM institute in Egypt for training, seminar, and workshops via the free and paid webinar programs of the institute. Conclusively, African countries should embrace the benefits of VM in different sectors to ameliorate the problem of poor project performance, stakeholders' dissatisfaction etc.

Wednesday, June 9, 2021

8:00 AM – 10:00 AM **BLOCK 11 – CONCURRENT INTERACTIVE PROFESSIONAL DEVELOPMENT (IPD) SESSION 1**
Monitor: Mack Wallace, P.Eng., VMA (Jacobs)

8:00 AM **Concurrent IPD Session 1: Introduction to Function Analysis**
Anita Lukose, B Tech, CVS® (Atina Systems)

PDU: 2.0 hours / Core Competency: Function Analysis

Introduction to Function Analysis explaining different aspects functions like definition, uses etc. Also introduce how functions can be derived from expressions

8:00 AM – 11:00 AM **BLOCK 11 – CONCURRENT INTERACTIVE PROFESSIONAL DEVELOPMENT (IPD) SESSION 2 / INTERNATIONAL PAPERS 2**
Monitor: Philip Mok, PMP, CSM, VMA, CF APMP (PMOK Consulting)

8:00 AM **Concurrent IPD Session 2: Applied Function Analysis**
Charles A. Bartlett, P.Eng., CVS® (Alfred Benesch & Company)
Muthiah Kasi, P.Eng., SE, CVS®-Life, FSAVE (Alfred Benesch & Company)
Aaron M. Buettner, P.Eng., CVS® (Alfred Benesch & Company)

PDU: 2.0 hours / Core Competency: Function Analysis

The workshop will be presented with five function analysis related topics.

- The first topic is foundational to function analysis and will deal with creating functions. The role of stakeholder expectations as a steppingstone to defining functions as well astools and techniques for cataloging those expectations will be discussed. Examples

of how stakeholders' needs and desires are converted into functions will be presented. Comparisons of action versus functions will be discussed. The relationship of functions and the role of actions will be shown using How-Why logic.

- The second topic explains the strategic path approach to FAST diagramming. The importance of placing functions under objective, all the time, critical path and caused by functions will be demonstrated by interchanging the functions under these classifications and how they change the desired solution.
- The third topic will deal with the Customer Function Model. Function classification on large projects or products will be shown. The relationship between Customer Function Model and FAST analysis will be demonstrated with a case study.
- The fourth topic will deal with Function cost, Value and Value Mismatch.
- In the fifth topic, how function analysis helps to create new ideas will be discussed. How to use functions for evaluation will also be explored.

The workshop will help participants to understand that function analysis is not just a second phase of the VM Job Plan; but a means to utilize in all phases of the VM Job plan. Examples to demonstrate all the above will help the participants to appreciate the effectiveness of Function Analysis.

10:00 AM

Function Analysis - Perspectives & Alternative Approaches

Raghavendra Rao, VMA (HCL Technologies Limited) / Jayesh Suhas Shimpi, VMA (HCL Technologies Limited)

PDU: 0.5 hours / Core Competency: Value Methodology, Function Analysis

The key differentiator between Value Methodology and any other cost-oriented studies/techniques/practices is the effective usage of "Study of Functions" and not only "Cost". The cost is brought into the study a derivative of "Functions".

One of the very important phases in VM is Function Analysis phase wherein Function Analysis System Technique (FAST) diagram is an integral element of Function analysis. FAST diagram is used to represent a logical relationship among functions, which answer to How-Why-When logic. The VM practitioners create FAST diagram and present their perspectives on the effectiveness of the same as part of function analysis.

Likewise, another important activity within Function Analysis Phase is "Function Cost Worth" (FCW) which is done to identify Value Gap/Index so as to focus more on high potential functions.

This paper attempts to bring out various perspectives about the effectiveness of Function Analysis Phase (especially FAST diagram and Function Cost Worth analysis) and recommended alternates.

10:30 AM

Guidance for Facilitating a VE Study Outside the Facilitator's Expertise

John Corcoran, P. Eng., CVS® (Jacobs)

PDU: 0.5 hours / Core Competency: Facilitation

In order to discuss the facilitation of a study beyond the expertise of the CVS®, it is important to first define expertise. Expertise is defined by the Cambridge English Dictionary as, "a high level of knowledge or skill." (Cambridge online). A typical VE study is comprised of appropriate subject matter experts that possess a high level of knowledge or skill within a certain discipline of the overall project scope. The success of the study is usually a direct result of the expertise of the study team. In the best-case scenario, the study facilitator will select the most capable subject matter experts to assemble a team or help the owner / client with the selection process. Candidates for study team participation may submit resumes that demonstrate their experience. The client or facilitator may request that minimum requirements are fulfilled, such as a minimum

of 20 years of experience and or professional registrations. In addition to experience within one's discipline, experience in value engineering may also be deemed an asset. The capability of the VE team will almost always increase as more time is spent in the team selection process.

11:00 AM **BREAK**

11:15 AM – 1:15 PM **BLOCK 12 – PAPERS FROM GERMANY**
Monitor: Ryan Elliott, P.Eng., CVS® (KSWA)

11:15 AM **Association of German Engineers (VDI) Presentation**
Joerg Marchthaler (Value Coaching Marchthaler)

11:30 AM ***Integrating Suppliers in VA/VE Studies***
Marc Pauwels, PhD, CVS®, TVM, FSAVE (Krehl & Partner GmbH & Co KG)

PDU: 0.5 hours / **Core Competency:** Value Methodology, Cost Analysis, Workshop Stage (Six-Phase VM Job Plan)

In manufacturing environment, the use of suppliers is a normal situation for all companies. From suppliers of standard parts like screws via suppliers for sub-assemblies up to system suppliers – all is in the normal range for a company. How to deal with suppliers in VA/VE studies? Shall every supplier be part of the team? Or is it allowed to integrate a system supplier in a VA/VE study? This paper deals exactly with this kind of questions and wants to give the reader an overview over the opportunities, but also the risks of such an integration.

12:00 PM ***An Extensive VE/VE – Study on Textile Machinery***
Sebastian Meindl, CVS® (Krehl & Partner GmbH & Co KG)

PDU: 0.5 hours / **Core Competency:** Value Methodology

This paper shows, how a very challenging cost reduction goal for a machine for textile fabric production could be achieved. In order to be competitive on a specialized regional market, the manufacturing cost of this machine must be reduced by approximately 50%. To fulfill this request, the scope of the Value Study had to be increased drastically, as well as the degrees of freedom in creativity. Even in this study, Value Analysis is still the core element in order to achieve the goal. But the Value Study itself is embedded in a framework investigating deeply into customer's and market's requirements on the one hand and on the other hand investigating into the company's value creating chain including overseas production facilities, logistics and intercompany transaction conditions. Sub-teams have been set up accordingly to the different scopes of work. As a result of the project, an outstanding cost reduction, transferable to market prices in order to achieve full competitiveness could be accomplished.

12:30 PM ***Obstacles to the Implementation of Value Engineering in German Construction Projects***
Natalia Bienkowski, P.Eng. (Technical University of Dresden)

PDU: 0.5 hours / **Core Competency:** Value Methodology

This paper explains some obstacles to the implementation of value engineering in German construction projects. A value engineering study requires an interdisciplinary team that works together from an early stage of the design phase, which means combining design and construction. Nonetheless, the project management culture in the German construction industry is known to be confrontational, with a traditionally strict separation of planning and execution. However, there are many tendencies in the German construction industry that show strong openness to cooperative project management, interdisciplinary teamwork, cost

reduction and innovative ideas. Furthermore, there are developments in procurement law that significantly facilitate combining planning and execution through involving the contractor from an early planning phase. Although value engineering is known in Germany for more than 50 years and is practiced in product design, it remains relatively unknown in the German construction industry. With the new developments, this can change in the future.

1:00 PM - 2:00 PM

LUNCH

2:00 PM – 4:45 PM

BLOCK 13 – PAPERS FROM THE AMERICAS

Monitor: Amin Terouhid, Ph.D., P.Eng., PMI-RMP, VMA (Adroit Consultants LLC)

2:00 PM

The Many Uses of Functional Performance Specification

Lucie Parrot, P.Eng., M.Eng., CVS®-LIFE, FSAVE (Martin Parrot Inc.)

PDUs: 0.5 hours / Core Competency: Value Methodology, Transform Information, Function Analysis, Cost Analysis

Function analysis is the basic tool to improve the competitiveness of the products and services designed and built by an enterprise to fulfill needs that are not yet satisfied or not well satisfied. Teams of experts try to capture those needs and then design a product or service that will cover all those needs. Elicitation of the needs by the eventual users is not easy and understanding them well by those who will design the response is not easy either. Function analysis is a good method to facilitate this. The present paper will underline the various tools to use to do so in a Functional Performance Specification and it will explain the various uses of this document, including how to use them in FMEA (Failure Mode and Effect Analysis), in procurement of solutions and for the selection of a best option among many possible ones. The topics covered in this paper will address the Core Competencies regarding the Value Methodology in general, as well as Transform Information, Function Analysis and Cost analysis.

2:30 PM

The Minimal Technical Solution

John Sloggy, P.Eng., MBA, CVS® (Value Based Design)

PDUs: 0.5 hours / Core Competency: Value Methodology

Value Management (VM) can accomplish many things depending on the focus gleaned from the Owner's Value Perspective, ranging from a focus on the efficient use of resources to one of maximizing creativity. One of the strengths of VM is the process of re-envisioning the current design into an abstract functional explanation, separating one's self from the constraints of the current concept to open the mind to envision substantially different solutions to the task. We will discuss the process to make this approach most effective, specifically, by identifying the Minimal Critical Path that leads to the Minimal Technical Solution.

3:00 PM

It is Time to Eliminate the Creative Phase from Value Methodology

Robert Prager, P.Eng., CVS® (Strategic Value Solutions, Inc.)

PDUs: 0.5 hours / Core Competency: Value Methodology, Team Facilitation, Workshop Stage (Six-Phase VM Job Plan)

It is time to eliminate the Creative Phase from Value Management and replace it with the Imagination Phase. We start a value workshop with the original concept and recommend changes to improve its value. Original concepts are history. Creativity is the present and bridges between history and the future. Imagination is the future, the unseen potential. Imagination frees us from bias. A team imagining alternatives is less constrained than a team creating alternatives. Changing the mindset of a value team makes it more creative. The higher level of

abstraction of a team imagining concepts results in better value alternatives. This paper proposes a way to take the creative power of imagination and channel it for better performance from value methodology.

3:30 PM ***Value Engineering: Definition of Functions Through Requirements and Specifications***
Sara Camacho-Navares (Universidad Panamericana)

PDU: 0.5 hours / Core Competency: Function Analysis

The purpose of this paper is to help engineering designers that must conceptualize, design, and develop a nonexistent product by providing a technique that allows them to understand what the product must do through the use of functions. Finding functions becomes a challenge when there is not a reference product to be analyzed. Results showed that requirements help determining functions and also offer the engineering designer a better understanding of the project.

4:00 PM ***Necessity is the Mother of Invention – Value Methodology in the Age of Pandemic***
Robert Stewart, CVS®-Life, FSAVE, PMP, PMI-RMP (President, CEO, Value Management Strategies, Inc.)

PDU: 0.5 hours / Core Competency: Value Methodology

The onset of Covid-19 created widespread change in the daily lives, and in the way they conduct business, for people across the globe. This paper will explore the impact of the pandemic on the practice for a VM professional services company. We will explore the impacts of the pandemic and the shift to virtual VM studies; the challenges and opportunities; facilitative and technological changes that have been made; and an assessment of the effectiveness of these adaptations. Finally, we will offer our conclusions based on the lessons learned and the path forward for the practice of VM in the post-pandemic world.

4:30 PM **BREAK**

4:45 PM – 6:45 PM **FORUMS / NETWORKING**

4:45 PM **GOVERNMENT FORUM**
Moderator: Lee Danley (U.S. Army Corp of Engineers)

4:45 PM **CERTIFICATION FORUM**
Moderator: Bob Rude

5:45 PM **President's Happy Hour**

Thursday, June 10 – Sunday, June 13, 2021

7:30 AM – 5:00 PM

POST-SUMMIT COURSES

Value Methodology Fundamentals 1 (VMF1)

Instructor: Patrice Miller, CVS® (RHA, LLC)

This course is designed for individuals involved in manufacturing, construction, or any design-oriented professionals. You will learn an extremely valuable process to help you make improvements, seek out innovation and value opportunities for products, projects, programs, and processes, and even the way you and your organization does business. This course is the first step toward the certification process. Once you complete this course and pass the VMA exam, you will obtain your first level of certification.

Value Methodology Fundamentals 2 (VMF2)

Instructor: Javier Masini, CVS® (RHA, LLC)

This course is designed for individuals involved in either manufacturing or construction. It is required for those individuals who are already knowledgeable in basic Value Methodology theory and need to improve their Function Analysis and Facilitation Skills to lead their own VM Studies. In other words, more than training about VM, this course is to prepare you to be the VM trainer or facilitator. Those practitioners looking to become a Certified Value Specialist are required to this course.