Indian Value Engineering Society
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SAVE International 2025 Value Summit

hosted by

Indian Value Engineering Society

SAVE 2025 VALUE SUMMIT

15-16 September 2025, The LaLit Hotel, New Delhi, India

Value Methodology for Strengthening the pillars of Economy

Souvenir

Ajay Sharma
Conference Chairman
INVEST-INDIA

John Corcoran Conference
Co Chairman SAVE
International USA

Amit Kumar
President INVEST-INDIA

Welcome message from President of INVEST

The Economic framework of any nation is built upon foundational pillars such as Productive Capacity, Sustainable Growth, Innovation, Governance and Human Capital Development. Strengthening of these pillars requires a strategic approach that maximizes Value while ensuring Efficiency, Resilience and Inclusivity.

The Value Methodology (VM) is a systematic approach used to improve the Value of Products, services and processes by analyzing functions and reducing cost without compromising its quality, efficiency and Usefulness. This methodology can be effectively applied to Economic Development Strategies around the Globe.

In view of the above background, SAVE International USA has planned its annual 2025 Value Summit in India, which usually happens in USA every year, and Indian Value Engineering Society India is proud to host this Conference in New Delhi on 15th & 16th Sep. 2025 at Hotel The Lalit.

Welcome message from President of SAVE International

Dear Delegates, Speakers, and Valued Members,

On behalf of SAVE International, we are honored to welcome you to the 2025 Value Summit – the first one held in the Eastern Hemisphere! We are proud of the organizing committee and especially the host and organizer, the Indian Value Engineering Society (INVEST), as this event would not have been possible without their hard work and dedication. This is the first Value Summit in India, but it continues a long-standing and successful series of many previous events, all characterized by high quality, strong participation, and consistently current themes.

The theme of this year's Value Summit is "Value Methodology for Strengthening the Pillars of the Economy" – what a powerful statement! Our current situation is marked by major challenges that are also affecting companies and organizations worldwide. How can we respond to this? With a holistic approach, collaboration among experts, and a systematic methodology – the Value Methodology (VM).

The 2025 Value Summit brings together thought leaders, practitioners, and changemakers from around the globe to explore how the VM can drive sustainable growth and impact across industries. Throughout the event, you will hear exhilarating keynote speeches, paper presentations, and panel discussions on how the VM can effectively be applied to economic development strategies anywhere in the world. Be sure to take advantage of the networking opportunities and share your VM success stories with other industry professionals.

SAVE International wishes all participants and the organizing committee a successful and engaging Value Summit. May it be a platform for insightful dialogue, meaningful connections, and the continued advancement of the VM. Together, let us share our expertise and drive positive, lasting change around the world. Sincerely,

Hussien Al-Battaineh, PhD, PEng, CVS President

Marc Pauwels Marc Pauwels, Dr-Ing, TVM, CVS, FSAVE Director of Global Affairs

John Corcoran, PE, CVS, PMP Former Director of Conferences

Welcome Message

Mohan Savarkar
Chief Product Officer & Vice President
Tata Motors Passenger Vehicle Ltd

In an era defined by rapid economic transformation and accelerating technological advancements, Value Engineering serves as a strategic enabler for innovation, operational excellence, and sustainable growth. By uniting cross-disciplinary expertise, it enables the optimization of products, improvement of processes, and strengthening of business resilience in a competitive global landscape.

The discipline extends beyond cost efficiency, promoting the integration of advanced technologies, sustainable practices, and innovative thinking to deliver long-term value. Its principles support the creation of solutions that balance commercial competitiveness with environmental stewardship and societal benefit.

The SAVE Summit 2025 provides a distinguished platform for global industry leaders, policymakers, and technical experts to exchange insights, share proven strategies, and explore new opportunities in value-driven transformation. Through collaborative dialogue and knowledge sharing, the summit advances the collective goal of building stronger economies, more resilient industries, and inclusive communities.

By maintaining a steadfast focus on innovation, efficiency, and sustainability, Value Engineering continues to shape a future where progress is measured not only by economic success, but also by its enduring positive impact on society.

My best wishes to the participants and the organizing committee for a successful, engaging and enriching Value Summit 2025.

Welcome Message

Ajay Kumar
Senior General Manager- Cost Engineering
Tata Motors Commercial Vehicle- Pune

We are delighted to know that this year SAVE Value Summit 2025 in happening in India & Tata Motors Commercial Vehicle will be participating in this event.

The theme of this year's value summit is very much suitable for Tata Motors - Value Methodology has been a strengthening pillar in Tata Motors for cost competitiveness. We have been using this tool for last 3 decades and our association with SAVE has been very helpful. In pursuit of continuous improvement to our product portfolio and improve value proposition to our customers, Value Methodology and VM culture was identified as a strategic advantage. With the continued management focus this partnership played a significant role in enhancing efficiency, reducing costs, and improving overall value within the organization.

Tata Motors commercial units received various rewards in pasts like HANDA Golden Key,Prof. Vasnat Rao Trophy, Mohta Trophy & Best Technical paper awards.

This year also our teams will present their papers & they will get exposure to listen to global leaders, practitioners & will get networking opportunity to share VM success stories with other industry professionals.

Our best wishes to the organizing committee and all participants for an enriching experience.

Regards

Welcome Message

Rajan Nagre, CVS Life, FINVEST
Engineering and Value Management Consultant,
Chairman-INVEST Certification Board,
Chair-Affiliate-SAVE Certification Board

A Hearty Welcome to the SAVE Value Summit 2025!

It is with great pride and excitement that we welcome the leadership of SAVE and INVEST, esteemed office bearers, dedicated value practitioners, and distinguished guests to the much-anticipated SAVE Value Summit 2025, being held for the first time in New Delhi, India.

Since 77 years of it's inception, with continuous enhancements over the decades, VM has evolved into a powerful, versatile tool with limitless applications, impacting not just organizations, but society and national economies at large.
This year's theme, "Value Methodology for Strengthening the Pillars of Economy," resonates globally, transcending borders and sectors. It reflects our collective commitment to harnessing VM for sustainable development and economic resilience.

Manufacturing and Service are two main pillars of economy. The INVEST along with Indian trainers, have been helping them with Value Methodology, both domestically and internationally.
Human capital is another important pillar of economy where education plays an important role. In addition to deploying SAVE's certification programs, ICB (INVEST Certification Board) developed three India-specific certification programs—SVP, SVA, and PVA. They were launched in December 2020 during the 39th INVEST International Value Engineering Virtual Conference, held amid the challenges of the COVID-19 era. These programs are tailored to the Indian business ecosystem, serving students, trainers, and professionals alike.

Warm regards and best wishes for a successful Value Summit 2025!

Welcome Message

Vivek Sonar
Head, IMCR & VAVE
Mahindra Trucks & Bus Division,
Mahindra & Mahindra Limited Pune, India

Dear Delegates, Speakers, and Valued Members,

It's an honour & privilege to talk to you on behalf of INVEST and SAVE, International on the backdrop of the most coveted event SAVE Value Summit 2025 happening right here in New Delhi, India & for the first time outside USA.
A Hearty Welcome to all, the Value Methodology Practitioners, Professionals representing wide spectrum of industries and a diverse culture from across the World.

The Theme of this year's Value Summit "Value Methodology for Strengthening the Pillars of Economy" resonates well with India's growth journey of becoming third largest economy of the world. And I am sure many across the globe would connect with the theme in one way or other. Such a powerful theme cutting across the boundaries & connecting soulfully with all of us. Kudos to the organizing team & thought leadership for providing such powerful magnetic connect for the two days powerpack event.

As a Value Methodology practitioner, my formal journey started just 2-3 years back, but I could not just connect with it instantly but found its relevance to everything around me, both in personal as well as professional sides. And I am more than certain that you all will have similar deeper insights into Value Methodology & it's application to day-today situations while listening to the eminent speakers, panellists, technical track presentations, as well as while networking with all the delegates. I urge everyone to be like a Sponge soaking into the knowledge & wisdom flowing around. Remember, human mind is like parachute, it works best when it's open

I will be also presenting a technical paper during the conference, dwelling upon a potential confluence between two powerful theories – Project Management & Value Methodology and I look forward to meeting you all there.

I wish you a best learning experience which will help you, guide you in delivering the VALUE in whatever mission you are on and be a change in strengthening the pillars of Economy !!

See you soon,

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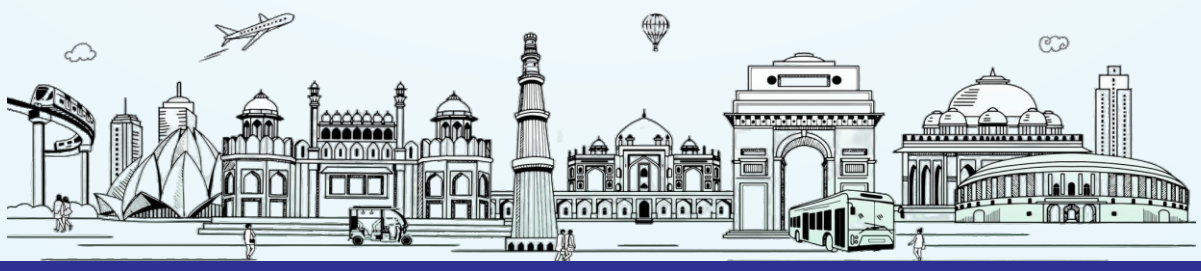


Abstract Id – 1

Author's Name – Dr Sonal Shivagunde

Author's Designation – Co-founder & Ceo

Author's Organization – Enval Consultants Pvt. Ltd.

Abstract Title – Application Of Value Methodology For Optimising Economic And Social Benefits Of Corporate Social Responsibility – A Case Study From Jharkhand, India

Abstract Topic – Agro Economy Csr Vm Study_kasi Award- Dr. Sonal.pdf

Abstract – Corporate Social Responsibility (CSR) Projects are implemented in India since 2014-15 as mandated by Ministry of Corporate Affairs (MCA). This paper demonstrates use case for transformational application of VM for optimizing economic development and sustainability through CSR. It is first of its kind in India. The 1-year VM Study was undertaken for CSR of JAMIPOL Pvt. Ltd. for 3,000 + tribal families in remote areas of Jharkhand State. The VM Study framework was contextualized under the guidance of VM Expert Advisors from Japan and CSR Expert in India. The 6 Phase VM Job Plan was followed, with intensive research, field visits, workshops, validation by experts and integration of AI tools for systematic execution. Repeatable and resilient income generation models were developed for increasing target of annual income of tribal families from INR 1.1 lakh (INR 30 crores at project level) to INR – 2 to 6 lakh (total 60 to 180 crores at project level) within a span of 1 – 2 years. These are being piloted in fields. About 33% reduction of costs in processes (INR 8 crore at project level), 57% reduction in time for operational tasks, value addition for products and technology transfer are targeted in 2 years. The NGO Team has internalized VM approach, leading to process optimization and improved farming practices. Monitoring and planning are digitalized with mobile apps and Geographical Information System (GIS). Proposed integration of IoT, AI-powered monitoring and predictive analysis are scheduled based on funding. The income generation models developed in the VM Study can be scaled to 10,000+ livelihood and (MCA, 2023-24) in India leading to 2x to 3x increase income of 10 million+ rural and tribal families. Further, resource optimization measures can lead to saving of INR 1,500 crore (30% of 5000+ crore annual spend in 2023-24). Given the funding (INR 2.2 lakh crore spent in 9 years), institutional mechanisms and outreach upto the last mile (~ 18 crore beneficiaries), CSR Projects have potential to accelerate achievement of SDG 2030 of India. Learning of the VM Study demonstrated that end-to-end integration of VM, AI and relevant technologies can empower CSRs to attain this through the ongoing 51,966 projects with avg annual funding of INR 34,908 + crores.

Abstract Id – 2

Author's Name – Shyam Bihari Gupta

Author's Designation – Founder

Author's Organization – Value World

Abstract Title – Intergration Of Va And Tqm

Abstract Topic – Integration Of Va And Tqm.pdf

Abstract – VA or TQM, which one to choose for maximizing the benefits, has been a subject of debate for decades in the manufacturing, construction, medical as well as in service industry. While most customers do not have clear concept of Value and Quality, price remains an important factor when purchasing a product or service. The basic principles of TQM are customer focus, continuous improvement and teamwork. VA basically stresses on functions of the product and the cost of these functions. The benefits in VA are derived by identifying the unnecessary cost. Then alternate ideas are developed using creativity, achieving the same functions at a much lower cost, while retaining same performance or improving it. Since both TQM and VA involve customer focus and teamwork, much better results could be achieved by integrating them together. In this paper, effort will be made to clarify basics, processes used and benefits of integrating them.

Abstract Id – 3

Author's Name – Ashik P M

Author's Designation – Va/ve Expert

Author's Organization – Molex India

Abstract Title – Enhancing Vave With Design Thinking:
A Synergistic Approach To Innovation And Cost Efficiency

Abstract Topic – Enhancing Vave With Design Thinking.pdf

Abstract – Incorporating design thinking into Value Analysis and Value Engineering (VAVE) presents a transformative approach to enhancing product development and process optimization. This paper explores the synergy between design thinking and VAVE, emphasizing the benefits of user-centric, iterative problem-solving methods. By integrating design thinking principles—empathize, define, ideate, prototype, and test—into VAVE, organizations can foster innovation, improve user experience, and achieve cost efficiency. Through detailed case study, this paper demonstrates the practical applications and effectiveness of this integrated methodology. The findings highlight how design thinking can drive cross-functional collaboration, generate innovative solutions, and deliver greater value to customers, ultimately leading to enhanced business success.

Abstract Id – 4

Author's Name – Dinesh Tulshiram Shinde

Author's Designation – Senior Manager

Author's Organization – Tata Motors Ltd

Abstract Title – Application Of Value Methodology Of Engine Cooling System Of Truck Vehicle For Cost Optimization_ tata_motors_ltd

Abstract Topic – Application Of Value Methodology Of Engine Cooling System Of Truck Vehicle

Abstract – This study evaluates Value Analysis and Value Engineering (VAVE) opportunities in the cooling system design of heavy commercial vehicles, with a focus on optimizing Radiator and Intercooler core thickness. Two key modifications were assessed: (1) reducing the radiator core thickness from 34 mm to 28 mm, and (2) reducing the intercooler core height by 79 mm. Thermal performance data from vehicle testing, under diverse operating conditions, indicate that both changes can be implemented without compromising LAT and IMTD requirements which are passing criteria for vehicle's engine cooling performance. The 28 mm radiator core demonstrated sufficient thermal and airflow performance, while the reduced height intercooler, combined with enhanced airflow and robust design, maintained effective engine cooling. 28 mm radiator tube by virtue is stronger under pressure, by 20% than 34 thk tube due to smaller section size. These design optimizations delivered tangible benefits, including reduced weight, lower manufacturing costs, supporting the case for their adoption in similar future vehicle platforms.

Abstract Id – 5

Author's Name – Arun Kumar

Author's Designation – Head Edic & Training

Author's Organization – Tata Steel Limited

Abstract Title – Value Analysis & Sustainability (vast) Through Projects To Strengthen The Pillars Of Steelmaking Economy

Abstract Topic – Value Analysis & Sustainability_vast_abstract_ arun Kumar_tsl (1).pdf

Abstract – This paper describes the importance of value creation by Tata Steel at different stages of steelmaking such as value creation through waste management to achieve the strategy of zero waste concept and its linkage to the SDG goal. Similarly, zero water discharge, low emission towards air pollution etc. are some of the projects which Tata Steel is currently undergoing to create value for sustainability development. Identifications of Functions, Function Analysis using Customer FAST and Technical FAST along with Function Cost Worth analysis has been carried out for Ground Granulated Blast Furnace Slag (GGBS) in Tata Steel project construction. GGBS is a by-product of steel production that is ground into fine powder and used as a supplementary cementitious material in concrete. GGBS is known for its ability to enhance concrete durability, strength, and sustainability. Similar Function and Function Cost Worth Analyses have been carried out for other steel making waste items like raw material dust, mill scales etc. Tata Steel continued commitment to sustainable steelmaking, integrating cutting-edge technologies and responsible business practices to reduce environmental impact, and contributing meaningfully to a greener & more resilient future for the steel industry to strengthen the pillars of economy.

Abstract Id – 6

Author's Name – Ramkumar Arumugam

Author's Designation – Team Lead - Vave

Author's Organization – Allegion India Private Limited

Abstract Title – Application Of Value Methodology For Coordinators

Abstract Topic – Ksrm Sastry Award Entry - Application Of Value Methodology For Coordinators - Ra

Abstract – The "Coordinator" is a specialized door hardware component designed to control the closing sequence of a pair of doors. It ensures that the doors close in the correct order, which is essential for maintaining security, fire safety, and proper sealing, particularly indoors with overlapping astragals. A Value Methodology Workshop aims to systematically improve the value of a product by analyzing its functions, costs, and performance. For the Coordinator product, this workshop seeks to identify opportunities to enhance its design, manufacturing process, and overall market competitiveness while maintaining or improving its functionality and quality.

Abstract Id – 7

Author's Name – Shanmuganathan R & Madhu H S

Author's Designation – Sr. Mechanical Engineer

Author's Organization – Allegion

Abstract Title – Application Of Value Methodology To A Cylindrical Locks Series

Abstract Topic – Save 2025-allegion-mohta Award-application Of Value Methodology To A Cylindrical

Abstract – This paper highlights the successful application of Value Methodologies to optimize Allegion's commercial cylindrical lock series. The product, certified with best-in-class features in the premium segment, offers 31 functions, 9 lever designs, and 10 different finishes. Despite its robust features, the product faced challenges due to design complexity arising from multiple functional variants, the extensive reuse of parts across functions, and high BOM costs. There was a need to deploy a tool to understand the entire product, its various functions, and its design variations. Function Analysis was selected for its versatility in analyzing the functions of the constituent components and achieving the desired lock functionality.

Abstract Id – 8

Author's Name – Jayesh Suhas Shimpi

Author's Designation – Senior Technical Manager

Author's Organization – Hcltech

Abstract Title – Value Enhancement Of A Safety Device

Abstract Topic – Value Enhancement Of A Safety Device_ mr Jayesh Shimpi_hcltech.pdf

Abstract – HCLTech engaged with one of its customers for optimizing a product's cost. The objective was to enhance value of the product using HCLTech's expertise in VAVE and other complimenting services. PCM as a COE in HCLTech offers complete solution on VAVE, Cost Engineering and Supply Chain Management to its internal stakeholders & external customers. PCM solutions enable their customers to analyze & optimize various cost contributors (E.g., Product Design, Manufacturing, Supplier Negotiations, Supply Chain, Aftermarket, Warranty, Repair etc.) throughout the lifecycle of their products and services. PCM COE is positioned strongly with over one and half decade's experience and currently it has more than 300 certified Value, Cost & SCM engineers with diverse industry experience. Subject matter experts & certified practitioners make this team strong & capable of delivering the solutions with high quality. VAVE team (part of PCM COE) has executed numerous VAVE projects for its customers across engineering domains; a sizeable number of which were integrated with Cost Engg., Design Implementation, Simulation, Supply Chain Management etc. to provide complete solutions with high quality, commercial insights, and implementation support. This paper presents the application of Value Methodology to subject product and at the same time meet customer & business expectations.

Abstract Id – 9

Author's Name – Dileep Garje

Author's Designation – Manager Vave

Author's Organization – Mahindra & Mahindra

Abstract Title – Value Engineering For Wiring Harness

Abstract Topic – Application Of Value Engineering For Wiring Harness_v4.pdf

Abstract – The automotive industry is increasingly focusing on cost-efficient and high-performance solutions to meet the demands of modern transportation. Wiring harnesses, critical components in vehicle electrical systems, are no exception. This paper presents a comprehensive value analysis of wiring harnesses used in light commercial trucks, emphasizing design optimization, material selection, and cost reduction without compromising safety and functionality. The study evaluates existing wiring harness configurations, identifying opportunities to streamline manufacturing processes, reducing material waste, and enhance modularity. Advanced techniques such as Design for Manufacturing and Assembly (DFMA), along with simulation-driven validation, are employed to achieve optimal design. Furthermore, the integration of lightweight materials and innovative routing strategies is analyzed to reduce weight and improve energy efficiency. Results indicate significant potential for cost savings and performance enhancement through systematic value analysis. The findings contribute to the broader goal of producing lighter, more reliable, and environmentally sustainable vehicles, while maintaining compliance with regulatory standards. This research serves as a guide for engineers and manufacturers aiming to harness the full potential of value analysis in the automotive sector

Abstract Id – 10

Author's Name – Amit Sawant

Author's Designation – Senior Manager - Vave - Pd

Author's Organization – Mahindra & Mahindra, Truck & Bus

Abstract Title – Value Methodology For Fuel Tank Mounting Bracket In Heavy Commercial Trucks

Abstract Topic – Value Analysis Of Fuel Tank Bracket.pdf

Abstract – With increasing pressure on truck prices amidst fierce competition, competitive pricing has become essential for sustaining business success in the trucking industry. The VE team constituted with the mission to identify opportunities year on year, to optimize the material cost of the truck while improving or retaining the quality levels for the part function, performance and durability through Value methodology approach. In this paper we have described the concept of Value Analysis, its job plan and the effective implementation of it through a case study. A case study discussed in this paper involves a fuel tank bracket used in heavy trucks, which is a critical component requiring a robust design to withstand various loading conditions. Aim of this project is to develop optimized / integrated solutions & long-life components to meet the need of cost-effective truck. The design is optimized in such a way that the cost as well as weight is reduced without affecting the function and quality of the truck due to integration of 2 parts. The best feasible solutions from the available alternatives are chosen from the feasibility ranking table. Through the application of Value Engineering, integration of two different parts with deletion of one major bracket was achieved due to which inventory and variety reduction also got accomplished. This is first of its kind in industry. Final outcome was a successful showcase of value engineering with the effective utilization of the VAVE techniques.

Abstract Id – 11

Author's Name – Srinivasan R R And Sujith Kumar Reddy B

Author's Designation – Lead Hardware Engineer

Author's Organization – Allegion India Pvt Ltd

Abstract Title – Application Of Value Methodology Principles To Electronic Lock

Abstract Topic – Application Of Value Methodology Principles To Electronic Lock - Allegion - Srin

Abstract – An electronic lock is the best choice for doors where you need keyless access by not compromising on security, while enhancing accessibility. The electronic lock would not just accept credentials over keypad but also allows to conveniently program access codes for trusted friends, family and service providers so it's easy to come and go without keys. The electronic lock was designed many years ago, and some of the electronic components used in its design might now be considered legacy or outdated. Due to the rapid change in technology, the market would focus on using components with new technology and the sources for the legacy components would reduce because of the lower demand. The legacy designs would attract higher manufacturing cost and sustainability becomes a pain point for the organization. This technical paper highlights the successful transformation of electronics design by applying value methodology to electronic sub system of Allegion's Electronic Lock. A versatile value gap and Index technique was tried to identify focus areas for idea generation. The focus areas identified using this unique technique has resulted us with higher feasible and productivity ideas

Abstract Id – 12

Author's Name – Manohara Devedrappa

Author's Designation – Specialist Mechanical Engineer

Author's Organization – Allegion India Pvt Ltd

Abstract Title – Application Of Value Methodology To Exit Devices - Allegion - Manohar

Abstract Topic – Application Of Value Methodology To Exit Devices

Abstract – The 70 Series exit devices, a mid-price product (MPP) launched in 2024, offers unparalleled reliability, code compliance, and design flexibility needed for today's security and life safety challenges. Whether for a new construction project or a retrofit, these exit devices deliver a seamless blend of safety, durability, and performance. The 70 Series exit devices are designed in the mid-price range to strategically position the product within the market, offering a balance between cost and quality. This pricing strategy aims to Expand the Market Reach, Meet Competitive Pressure, Provide Value and Enhance Brand Positioning. This technical paper outlines the successful implementation of the Value methodology on 70 series exit devices to identify opportunities for cost optimization and improve the value of the functions. The goal is to identify opportunities to achieve the same level of performance at the lowest possible cost. This approach involved analysing high-cost functions and exploring cost-reduction methods without compromising the product's functionality or performance By applying the Value methodology, considerable cost savings were achieved without compromising the product's functionality or performance .

Abstract Id – 13

Author's Name – Abhijit A Salunkhe

Author's Designation – Senior Mechanical Engineer

Author's Organization – Allegion

Abstract Title – Application Of Value Methodology For Electric Strikes

Abstract Topic – Application Of Value Methodology For Electric Strikes - Allegion - Abhijit Salun

Abstract – Electric Strikes are electromechanical locking devices used with various door hardware. Allegion's range of Electric Strikes, designed for medium and heavy-duty applications, had remained unchanged for years. However, global supply chain disruptions prompted a redesign to better serve evolving customer needs. This paper presents how Value Methodology was applied to enhance product value by identifying high-cost functions using FAST diagramming. Through systematic analysis, we developed alternative solutions in design, materials, and processes—preserving performance and quality while reducing cost. The customer-centric benefits were significant:

1. A projected $1M annual savings by replacing a white-labeled product with an in-house design within two years.
2. A 20–40% SKU reduction through modular design, simplifying inventory and enable greater customization to meet diverse customer requirements.
3. Enhanced flexibility with field-convertible FS/FSE models and ANSI/BHMA certification, expanding market reach and easing compliance.

By optimizing our products through Value Methodology, we contribute to strengthening the pillars of the economy. Lower production costs and improved product-market alignment drive industrial efficiency, while compliance with global standards like ANSI/BHMA opens doors to international markets. This dual focus on operational excellence and export readiness fuels economic growth, enhances global competitiveness, and reinforces the foundation of a resilient, innovation driven economy.

Abstract Id – 14

Author's Name – Aditya Raj Singh

Author's Designation – Sr. Mechanical Engineer

Author's Organization – Allegion India Pvt Ltd

Abstract Title – Application Of Value Analysis Principles To Schlage Wifi Lever Lock And To Its Dual Catch Mechanism

Abstract Topic – Application Of Value Analysis Principles To Schlage Wifi Lever Lock And To Its

Abstract – For more than 100 years, Schlage has offered durable door hardware in a range of unique style combinations to express any personality. In the Electromechanical lock segment, Schlage Encode Smart Wifi lever lock is the premium lock with Wifi locking function. This lock uses a latch for securing the door and a Lever for retraction which is held on to locks by dual Catch mechanism.

This technical paper is having two layers. Product and subsystem. It speaks about successful application of VAVE principles and methodologies on the Product Schlage Encode Smart Wifi Lever Lock and then focusing on one of the Ideas which came out of the product workshop to convert to an implementable project – The dual catch mechanism. VAVE workshop on dual Catch mechanism has helped us to better understand the functions of mechanism, get an optimal design & to improve the cost margin. We were also able to address an assembly concern. Finally with this VAVE change we were able to simplify the design and simplify the shipping process as well.

Based on the functional analysis, the complex design of lever catch mechanism was simplified. This saves around $1 per lock in a product which is highly optimized and premium.

Abstract Id – 15

Author's Name – Bpm Aditya

Author's Designation – Senior Manager - Program Management

Author's Organization – Mahindra & Mahindra Truck And Bus

Abstract Title – Integration Of Qfd And Value Methodology

Abstract Topic – Bpm Aditya_save Summit 25_paper On Qfd & Vm Integration_11jul25.pdf

Abstract – For more than 100 years, Schlage has offered durable door hardware in a range of unique style combinations to express any personality. In the Electromechanical lock segment, Schlage Encode Smart Wifi lever lock is the premium lock with Wifi locking function. This lock uses a latch for securing the door and a Lever for retraction which is held on to locks by dual Catch mechanism.

This technical paper is having two layers. Product and subsystem. It speaks about successful application of VAVE principles and methodologies on the Product Schlage Encode Smart Wifi Lever Lock and then focusing on one of the Ideas which came out of the product workshop to convert to an implementable project – The dual catch mechanism. VAVE workshop on dual Catch mechanism has helped us to better understand the functions of mechanism, get an optimal design & to improve the cost margin. We were also able to address an assembly concern. Finally with this VAVE change we were able to simplify the design and simplify the shipping process as well.

Based on the functional analysis, the complex design of lever catch mechanism was simplified. This saves around $1 per lock in a product which is highly optimized and premium.

Abstract Id – 16

Author's Name – Lakshman S

Author's Designation – Senior Manager

Author's Organization – Schneider Electric

Abstract Title – Application Of Value Methodology For Design And Development Of Ht/It 3ph Smart Energy Meter Calibration Jig Adopter.

Abstract Topic – Lakshman -schneider Mysuru-invest Paper 2025_rev1.pdf

Abstract – All electrical and electronic measuring equipment is prone to errors caused by external or internal factors. The errors can be removed through a process known as equipment calibration. The energy meter undergoes calibration, too. This is the process used to determine and eliminate errors during energy measurement. Meter calibration can detect and correct measurement deviations, ensure fair measurement of user electricity consumption. Smart Energy meter calibration test Jig Consists of the following Assembly System. 1.Electrical Simulation & Measurement Equipment System 2.Meter Interface & Holding System 3.Control & Communication system 4. Safety & Compliance system 5. Structural & Auxiliary Components Meter Interface & Holding System contain Calibration jig adopter which Interface for safe and repeatable meter connections between Measuring source and Energy meter. Due to its frequent usage, the adapter is prone to wear and tear, necessitating routine maintenance. This not only increases operational costs but also causes production delays. Moreover, the current adapter design is over eight years old, and the replacement cost of its components is high. Therefore, there is a critical need to design and develop an in-house calibration adapter jig that is reliable, longlasting, cost-effective, and easy to maintain. In this situation, VAVE offered a platform for multidisciplinary teams to systematically apply approaches that identified a function or process and established a value for that function. It produced generic solutions that worked well for in-house calibration adapter jig that is reliable, long-lasting, cost-effective, and easy to maintain.

Abstract Id – 17
Author's Name – Sujay Subhash Nahalde
Author's Designation – Senior Manager
Author's Organization – Tata Motors Passenger Vehicle Limited
Abstract Title – Application Of Value Engineering Methodology To Optimize Automotive Camber Plate Design.
Abstract Topic – Application Of Value Methodology For Automotive Camber Plate.pdf

Abstract – Camber plates in vehicle suspension systems play a important role vehicle handling and stability. Camber plate must transfer suspension load, resist flexural bending, support wheel and withstand dynamic load condition. To meet this requirement, camber plate is traditionally made using forged St52 steel for its balanced strength and forgeability. However, this study proposes a Value Analysis/Value Engineering (VAVE) approach to explore substituting St52 with high strength S700MC steel, aiming for cost reductions & weight reduction without compromising performance. As a high-strength steel, S700MC boasts superior yield strength, potentially enabling a thinner material gauge while maintaining structural integrity for camber plates. The VAVE methodology would meticulously analyze the camber plate's functions, pinpointing critical performance aspects like suspension load, fatigue resistance, and dimensional stability. By leveraging S700MC's higher strength, the camber plate's geometry could be optimized to consume less material, leading to reduced weight, raw material & process costs. Furthermore, this material switch could streamline manufacturing processes, cutting down on forging and heating expenses. Ultimately, this VAVE-driven material substitution strategy presents a compelling opportunity to achieve substantial cost savings and weight reduction in camber plate production while upholding functional performance.

Abstract Id – 18

Author's Name – Divesh Kale

Author's Designation – Senior Manager

Author's Organization – Tata Motors Ltd

Abstract Title – Application Of Value Methodology For Developing A Cost-effective, Safe, And Durable Front-end Structure In Bus Body

Abstract Topic –

Abstract – This paper presents a comprehensive study on the front-end structure used in bus manufacturing within the automotive industry, emphasizing the application of Value Methodology (VM) to achieve cost optimization while enhancing safety and quality. The front-end structure plays a critical role in crash energy absorption and passenger protection, making it a focal point for both engineering innovation and economic optimization. Through the systematic application of VM, this research identifies cost-intensive components and evaluates alternative materials and design strategies that maintain or improve functional performance. Techniques such as function analysis, cost-to-function ratio assessment, and lifecycle cost evaluation are employed to guide decision-making. The study highlights how alternate materials can reduce manufacturing and operational costs, contributing to improved economic efficiency across the product lifecycle. The results show that this approach helps manufacturers lower costs, improve product Quality, and meet safety standards. More importantly, it supports the automotive industry in strengthening the pillars of the economy by promoting efficient production, safer transportation, and better use of resources. This method gives both companies and customers more value and helps build a stronger, more sustainable economic future.

Abstract Id – 19

Author's Name – Suman Bavarva

Author's Designation – Deputy Manager, Vave

Author's Organization – Xylem Water Solutions, India

Abstract Title – Application Of Value Methodology For "transforming Dewatering Pump Portfolio Through Value Engineering: A Case Study On Sd150 And Bd150 Models"

Abstract Topic – Value Engineering A Case Study On Bd150 Models.pdf

Abstract – The CD150M dewatering pump platform, once a market leader, faced declining sales and eroding margins due to over-engineering, lack of modularity, and poor regional segmentation. A Value Engineering initiative was launched to redesign the platform and create two new models—SD150 for developed markets and BD150 for emerging markets. Each tailored to specific customer needs while targeting aggressive cost goals. The project adopted a six-phase VE methodology, including in-depth teardown analysis, black box benchmarking of 17 competitor models, and stakeholder-led ideation workshops. This approach enabled insights into part cost drivers, over-designed features, and opportunities for standardization and localization. SD150 achieved a 22% cost reduction with simplified design, leading to incremental revenue over three years. BD150 achieved 50% cost savings, reduced assembly time by 30%, and delivered significant revenue within one year of launch. The redesigned portfolio improved segment gross margin from under 30% to 39%, enhanced supply chain flexibility, and simplified service operations. This case study highlights how VE can drive product innovation, customer alignment, and sustainable profitability. The structured methodology adopted here now serves as a template for future value-focused design programs within the organization, with future expansion planned across additional product families.

Abstract Id – 20

Author's Name – Sathishkumar Ramasamy

Author's Designation – Senior Value Methodology Lead

Author's Organization – Cameron Manufacturing India Ltd

Abstract Title – Enhancing Economic Foundations: Expanding The Reach Of Value Methodology

Abstract Topic – Enhancing Economic Foundations Expanding The Reach Of Value Methodology.pdf

Abstract – Al SLB our purpose is to create amazing technology that unlocks access to energy for the benefit of all. As innovators, that's been our mission for 100 years. We are facng the world's greatest balancing act: how to simultaneously reduce emissions while meeting the world's growing energy demands. We're working on that answer. Every day is a step closer. Our collective future depends on decarbonizing the fossil fuel industry while innovating across the entire energy landscape. It's what drives us, ensuring progress for the people and the planet - on the journey to net zero and beyond.

With a global footprint in more than 100 countries and employees representing almost twice as many nationalities we work each day on decarbonizing industry, innovating in oil and gas, delivering digital at scale and developing and scaling new energy systems that accelerate the energy transition.

Abstract Id – 21

Author's Name – Peeyush Anshu

Author's Designation – Senior Team Lead-design

Author's Organization – Tata Technologies Limited

Abstract Title – Application Of Value Methodology For Error-free Design Release Of Vehicles Through Simultaneous Engineering

Abstract Topic – Tech Write Up-save.pdf

Abstract – In the fast-paced automotive industry, the ability to release error-free vehicle designs efficiently and cost effectively is critical for competitiveness and customer satisfaction. This paper presents a structured approach that integrates Value Methodology (VM) with Simultaneous Engineering (SE) to improve design accuracy, eliminate waste, and accelerate development timelines. VM is applied through Function Analysis and multidisciplinary Value Engineering (VE) workshops, ensuring that every component and feature serves a justified function relative to its cost. When embedded within an SE framework—where cross-functional teams collaborate from the earliest stages of development—VM becomes a powerful enabler of informed decision-making and robust design validation. The integrated VM-SE approach minimizes late-stage changes by identifying manufacturability, quality, and cost concerns early in the development cycle. Case studies from automotive design programs illustrate how this methodology leads to first-time-right designs, improved cost-performance ratios, and faster time-to-market. This paper highlights how automotive OEMs can leverage this synergy to drive innovation, reduce risk, and deliver high-value products that meet customer expectations. The findings affirm that embedding VM within SE is a best practice for error-proof vehicle design and a strategic asset in achieving sustainable, lean, and value-focused product development.

Abstract Id – 22
Author's Name – Sujeeth San S
Author's Designation – Technical Manager - Aftermarket Engineering
Author's Organization – Trane Technologies, Climate Etc Technology Services Private
Abstract Title – Application Of Ve Methodology To Develop Tlc For Trailer & Truck
Abstract Topic – Application Of Ve Methodology To Develop Tlc For Trailer & Truck_trane_sujeeth.p

Abstract – In the fast-paced automotive industry, the ability to release error-free vehicle designs efficiently and cost effectively is critical for competitiveness and customer satisfaction. This paper presents a structured approach that integrates Value Methodology (VM) with Simultaneous Engineering (SE) to improve design accuracy, eliminate waste, and accelerate development timelines. VM is applied through Function Analysis and multidisciplinary Value Engineering (VE) workshops, ensuring that every component and feature serves a justified function relative to its cost. When embedded within an SE framework—where cross-functional teams collaborate from the earliest stages of development—VM becomes a powerful enabler of informed decision-making and robust design validation. The integrated VM-SE approach minimizes late-stage changes by identifying manufacturability, quality, and cost concerns early in the development cycle. Case studies from automotive design programs illustrate how this methodology leads to first-time-right designs, improved cost-performance ratios, and faster time-to-market. This paper highlights how automotive OEMs can leverage this synergy to drive innovation, reduce risk, and deliver high-value products that meet customer expectations. The findings affirm that embedding VM within SE is a best practice for error-proof vehicle design and a strategic asset in achieving sustainable, lean, and value-focused product development.

Abstract Id – 23

Author's Name – Anilkumar G

Author's Designation – Lead Systems Engineering

Author's Organization – Karl Storz Endoscopy Ptv Ltd

Abstract Title – Value Engineering In Medical Device Development: Cost-function Analysis For An Optimized Endoscopy Camera Design

Abstract Topic – Value Engineering In Medical Device Development Cost-function Analysis For An Op

Abstract – This abstract explores the application of Value Engineering (VE) to optimize the design and reduce the manufacturing costs of medical devices, specifically focusing on the Endoscopy Camera, without compromising patient safety or clinical efficacy. The medical device industry faces intense pressure to innovate while controlling costs, making systematic approaches crucial. This paper outlines a methodical approach to cost-function analysis in endoscopy camera design. It details how VE methodologies are used to:

1. Deconstruct existing designs/concepts: Identify the core functions of each component.
2. Quantify component costs: Map costs directly to these functions.
3. Identify non-value-added costs: Pinpoint areas where cost does not translate to essential function or patient benefit.
4. Generate creative alternatives: Brainstorm new design solutions, materials, or manufacturing processes.
5. Evaluate alternatives: Assess potential solutions based on a multi-criteria decision matrix, considering cost reduction, clinical performance, regulatory compliance, and patient safety.

A case study on an Endoscopy Camera highlights how VE can lead to significant cost reductions in areas like housing, illumination systems, and cable design, through optimized material selection, part consolidation, and streamlined manufacturing processes (e.g., transitioning from complex machining to injection molding where appropriate). The paper demonstrates that a systematic VE approach is vital for developing high-value, market competitive endoscopy cameras that meet stringent performance and safety standards

Abstract Id – 24

Author's Name – Sushant Mahajan, Sameer Jog, Laxman Avantkar, Atul Prabhune

Author's Designation – Value Engineering Project Manager

Author's Organization – Burckhardt Compression (india) Pvt. Ltd.

Abstract Title – Application Of Value Methodology For Packing Cooling

Abstract Topic – Application Of Value Methodology For Packing Cooling_rev02.pdF

Abstract – This paper explores the application of Value Methodology (VM) to enhance the packing cooling design in Process Gas Compressors at Burckhardt Compression. The primary goal was to replace the existing SpiralFlow cooling system—which utilizes soldered packing cups—with a more efficient and cost-effective alternative. The current design presented several challenges, including complex manufacturing, unreliable solder joints, and operational leakage. Using the structured phases of the Value Engineering (VE) Job Plan—spanning information gathering, functional analysis, idea generation, evaluation, and implementation—the project team developed and validated the LongFlow cooling concept. This modern design features machined packing cups, optimized cooling channels, improved sealing systems, and backward-compatible dimensions. The optimized system not only resolves leakage issues but also delivers a 35% cost reduction, a 21 day improvement in lead time, and enhanced reliability in both manufacturing and field operations. While the study primarily focused on design transition and implementation, it also identified future opportunities such as exploring alternative materials and optimizing machining costs. This case study illustrates how VM can effectively drive innovation, reduce costs, and boost product competitiveness in high-performance industrial equipment.

Abstract Id – 25

Author's Name – Ayush Mittal

Author's Designation – Senior Manager

Author's Organization – Tata Motors Ltd.

Abstract Title – Cost-effective Cng Cylinder Layout And Routing On Cng Trucks: A Value Methodology Approach For Economic Strengthening

Abstract Topic – Value Methodology Approach For Economic Strengthening

Abstract – The growing emphasis on sustainable mobility has accelerated the adoption of CNG-powered commercial vehicles. However, the design and integration of CNG storage systems often involve high part complexity, suboptimal routing, and elevated costs, which can hinder large-scale implementation. This paper presents a systematic application of Value Methodology (VM) to optimize the design, layout, and routing of CNG cylinders in commercial trucks. Our work applies this methodology for the optimization of CNG cylinder layouts and routing in commercial trucks — a critical segment in transportation and logistics, which is a foundational pillar of any growing economy. Leveraging tools such as function analysis, FAST diagrams, F-C-W analysis, and decision matrix, the proposed approach systematically identified and eliminated non-value-adding elements, resulting in a reduction in the number of components, improved layout efficiency, and enhanced manufacturability. The optimized system delivers significant cost savings while maintaining regulatory compliance and operational safety. The result is a simplified and cost-effective solution that supports both economic and environmental objectives. In alignment with the summit theme, "Value Methodology for Strengthening the Pillars of Economy," this work exemplifies how VM can be strategically applied to advance cost-effectiveness, support clean energy transitions, and strengthen core economic pillars such as industrial innovation, infrastructure optimization, and environmental sustainability.

Abstract Id – 26

Author's Name – Shailesh S Sonwane

Author's Designation – Senior Manager

Author's Organization – Tata Motors Commercial Vehicles

Abstract Title – Engineering For Economy: A Value Methodology Study On Automotive Chassis Frame

Abstract Topic – Engineering For Economy- A Value Methodology Study On Automotive Chassis Frame

Abstract – This paper presents a value engineering study focused on optimizing the chassis frame of commercial vehicles manufactured by Tata Motors. As the chassis frame is a fundamental load-bearing component, its design significantly impacts vehicle performance, cost, and production efficiency. By applying the structured principles of Value Methodology, the study evaluates key functions of the chassis and explores alternative materials and design strategies to enhance the value without compromising safety, durability, or regulatory compliance. Through systematic function analysis and cost-performance optimization, the study identifies opportunities for weight reduction, and process simplification. Proposed improvements include modular design optimization approaches, resulting in weight reduction, lower manufacturing costs and improved fuel efficiency. The outcomes of the study, in a way, supports broader national economic goals by promoting localized innovation, increasing manufacturing competitiveness, and fostering sustainable growth development. Through the alignment of technical solutions with economic necessities, this study serves as an example of how Value Methodology can promote product quality and strengthen the automobile industry's position as a crucial economic pillar in India. The study positions Value Methodology not merely as cost-cutting tool, but as a strategic enabler for strengthening industrial competitiveness and economic growth.

Abstract Id – 27

Author's Name – Abhijeet Dande

Author's Designation – Deputy Director

Author's Organization – Aker Solutions Entr

Abstract Title – Applying Value Methodology To Develop Strategy For Transformation Of Industries Towards Sustainable Operations

Abstract Topic – Technical Paper_abhijeet Dande.pdf

Abstract – India, the third-largest emitter of CO2 globally, faces significant challenges in balancing its growing energy demands with the need for emission reductions. In 2022, India's CO2 emissions reached 2.69 billion tons, a 6.52% increase from the previous year, with per capita emissions at 1.89 tons. Despite lower per capita emissions compared to developed nations, India's total emissions contribute around 7% of the global total. Committed to achieving net-zero emissions by 2070, India has set ambitious interim targets for 2030, including a 50% reduction in emissions intensity and 500 GW of renewable energy capacity. These goals, announced at COP26, also include reducing carbon emissions by one billion tons by 2030. To meet these targets, industries must adopt KPIs for emission reduction and transition from business as-usual to sustainable operations. This discussion paper proposes a value-maximized strategy using VM to guide this transformation. By conducting thorough baseline assessments, setting clear goals, and engaging stakeholders, industries can optimize processes and invest in innovative technologies. Integrating renewable energy and continuously monitoring progress through KPIs will ensure ongoing improvements. This comprehensive approach not only meets environmental targets but also enhances operational efficiency and stakeholder value, positioning industries for long-term success in a sustainable future.

Abstract Id – 28

Author's Name – Abraham P. Lukose

Author's Designation – Senior Consultant

Author's Organization – Pricewaterhouse Cooper

Abstract Title – Value Engineering Value Engineering - The Role Of Ai In The Job Plan

Abstract Topic – Value Engineer, Value Engineering - The Role Of Ai In The Job Plan.pdf

Abstract – Currently, three stakeholders are a part of the Value Engineering job plan:

- Decision makers
- Facilitators
- Participants

The introduction of AI brings a fourth stakeholder that will inevitably need to become a part of the job plan. While the role of the decision makers will largely remain unchanged, facilitators and participants will need to figure out how to co-exist with AI. This paper proposes that this co-existence will modify our current job plan to become an 'AI-assisted Job Plan'. Further, it details the roles of the three stakeholders for each function of the Value Engineering job plan.

Abstract Id – 29

Author's Name – Arun Mohan

Author's Designation – Senior Manager

Author's Organization – Tata Motors Pv Limited

Abstract Title – Balancing Cost And Performance: Localising Imported Windshield Glass In Automotive Manufacturing

Abstract Topic – Balancing Cost And Performance In Windshield.pdf

Abstract – Applying a structured VAVE (Value Analysis & Value Engineering) approach, this project aimed to localize the windshield assembly by replacing the imported lower thickness inner glass with a locally available higher thickness alternative. Despite increasing the total windshield thickness (with a marginal weight gain of 0.8 kg per vehicle), the solution effectively eliminated dependency on imports. In the Information & Function Analysis phases, key functions—safety, visibility, durability—were confirmed to remain uncompromised. During the Creative & Evaluation phases, alternatives were generated, assessed, and the selected option demonstrated maintained functional integrity while reducing cost and enhancing supply-chain resilience. Subsequent Development included supplier qualification, design adaptation, and compliance testing. Implementation in manufacturing validated performance and standardized process updates. This initiative exemplifies a VAVE-led optimization: preserving core product value, eliminating avoidable costs, and reinforcing local sourcing without sacrificing quality or safety.

Abstract Id – 30

Author's Name – Ashokkumar Bhochiya

Author's Designation – Deputy General Manager

Author's Organization – Schneider Electrical

Abstract Title – "value Analysis On Spreader Terminal Of Moulded Case Circuit Breakers" To Strengthen The Pillers Of Economy

Abstract Topic – Value Analysis Of Spreader Terminal

Mccb -rev1.pdf

Abstract – In the manufacturing of critical components, maintaining high quality and productivity is essential. However, the shop workforce often encounters challenges, particularly in driving innovation in manufacturing. This innovation leads to two significant outcomes: enhanced customer satisfaction and reduced manufacturing costs. Sustaining these values is crucial, as they are intrinsically linked to three vital aspects of business: Economic, Environmental, and Social. Therefore, business objectives must encompass: a) financial benefits for the company, ensuring profitability and growth. b) The preservation of nature and natural resources, promoting sustainability. c) The upliftment of individuals within the company and the surrounding community, fostering a positive social impact. Value Engineering (VE) plays a pivotal role in achieving these objectives. The VE case study presented here illustrates the insights gained during our Thrust Area workshop. By employing a systematic VE approach, we conducted thorough studies and analyses that yielded cost advantages, enhanced environmental protection, and fulfilled our social obligations. The reduction in costs not only provided financial benefits to the company but also led to the elimination of unnecessary machining operations. This not only saved valuable natural resources but also significantly reduced our carbon footprint. Furthermore, the process fostered stronger social bonds between the company and its suppliers, creating a collaborative environment that benefits all stakeholders involved. In summary, Value Engineering is not just a tool for cost reduction; it is a comprehensive strategy that aligns economic success with environmental stewardship and social responsibility, This project is a classic example of strengthening the pillars of our Indian economy by using VA/VE Job plan.

Abstract Id – 31

Author's Name – Chetan Kulgod

Author's Designation – Deputy Manager, Vave

Author's Organization – Xylem Water Solutions, India

Abstract Title – Application Of Value Methodology For "value Optimization And Design In Gas Regulators: 143-80 & 496 Series"

Abstract Topic – Value Optimization In Gas Regulators.pdf

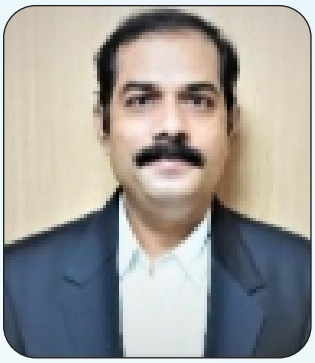
Abstract – The 143-80 and 496 series gas regulators have served the residential and industrial gas distribution sectors for decades. Despite strong historical performance, shifting customer expectations, regulatory pressures, and evolving market competition necessitated a Value Optimization and Design initiative. This paper presents the comprehensive VOD methodology applied to these high-volume, high margin products with the objective of achieving a 20% cost reduction while maintaining performance. The project focused on two major variants, 143-80-2 and 496-20. A systematic Value Engineering approach was adopted, encompassing Function Analysis, Benchmarking, Blackbox Analysis, and Design Standardization. Special emphasis was placed on high-cost, low-criticality functions and on redesign opportunities identified through BOM Pareto and teardown studies. Key improvement areas include material substitution, manufacturing automation, and standardization. This paper also examines customer-centric functions using FAST diagrams and explores how design simplification can unlock sourcing and supply chain efficiencies. Through this VOD approach, the organization aims to elevate competitiveness against lower-priced rivals and reclaim lost market share. The insights serve as a replicable framework for VE implementation in legacy yet critical product lines.

Abstract Id – 32

Author's Name – Ketan Vijay Deshpande

Author's Designation – Dgm, Production Engineering

Author's Organization – Lauritz Knudsen - Schneider Electric India Pvt Ltd



Abstract Title – Optimization Of Mcb Cost By Raw Material & Design Change In Current Carrying Path.

Abstract Topic – Se Paper Ketan Deshpande.pdf

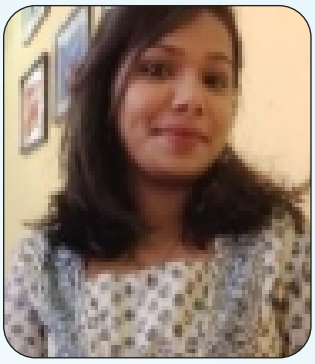
Abstract – Sometimes it's difficult to predict market demands in future terms while designing a product. It is important to consider available manufacturing processes, its capabilities and costs while designing a product. Over some period, demand rises intensively, and manufacturability becomes incompetent to keep up with the rising volumes and costs. Right there, concepts of Value Engineering should be brought into play to reduce production cost, Improve efficiency to increase market share. At Lauritz Knudsen Electrical & Automation, we recognize the pivotal role Final Distribution Products play in guaranteeing the safety and efficiency of electrical distribution in both residential and commercial settings. Our extensive range of MCBs, RCCBs, and DBs is meticulously designed to cater to the diverse needs of our customers. This case study represents one of the ways of totalling profits on targets and at the same time keeping customer delighted, using VAVE methodology. It explains about redesigning an Electrical standard product 'MCB' and implementing the new design without disturbing the 'on time delivery' against rising demands is achieved using VAVE approach.

Abstract Id – 33

Author's Name – Shriya Kishor Deshkar

Author's Designation – Product Engineer

Author's Organization – Trane Technologies-etc India



Abstract Title – Application Of Value Methodology To Optimize The Control Box In Transport Refrigeration Unit

Abstract Topic – Application Of Value Methodology To Optimize The Control Box In Transport Refrig

Abstract – Trane Technologies is a global climate innovator. Through our strategic brands Trane® and Thermo King®, and our portfolio of environmentally responsible products and services, we bring efficient and sustainable climate solutions to buildings, homes, and transportation. Trane Technologies sustainability goal is to reduce one gigaton of carbon emissions (CO2e) from our customers' footprint by 2030. This paper explores the application of Value Engineering (VE) methodology to enhance both sustainability and economic value in our projects, thereby strengthening the pillars of the economy. Our initial focus was on cost-saving opportunities for the control box component, which has the controls the unit operation. After doing the cost worth analysis and going through various ideas, we identified the use of recycled nylon as a immediate as well as simple solution which can be done quickly without affecting the product quality at same time meeting the application requirements. We evaluated recycled nylon resins as alternatives to the incumbent resins made from 100% virgin nylon. These recycled resins, sourced from various suppliers, consist entirely of either post-industrial or post-consumer recycled nylon. Now with this identification, we are trying to look for other such components where we can use recycle nylon without compromising the product quality. Through the adoption of the VE approach, we conducted a comprehensive study involving material analysis, design modifications, and various optimization techniques. The evaluation encompassed mechanical properties, UV resistance, and moulding trials. The results demonstrated that the recycled resins exhibited comparable performance in functionality and processability to virgin nylon. Transitioning from virgin nylon to recycled nylon is projected to achieve a 54% reduction in total embodied carbon. Additionally, over 350,000 pounds of scrap and recycled material will be reused within our supply chain annually. These advancements contribute to reduced energy consumption and CO2e emissions, reinforcing Trane Technologies' commitment to innovative and environmentally responsible solutions.

Abstract Id – 34

Author's Name – Vikram Bankar

Author's Designation – Senior Manager

Author's Organization – Tata Motors Ltd

Abstract Title – Model Based Def Quality Determination For Automotive Application On Account Of Softwerisation & Optimization Of Sensors With Focus On Localization

Abstract Topic – Sensor Optimisation Through Value Methodology_final.pdf

Abstract – The urea quality sensor plays a critical role in the Selective Catalytic Reduction (SCR) in reduction of nitrogen oxide (NOx) emissions for meeting emission standards. In the after treatment system there are several sensor used for meeting emission standards e,g, Exhaust Gas Temperature , Differential Pressure, NOx, DFE quality & Level sensor. Value engineering (VE) is a systematic approach designed to identify potential Value while minimizing costs, without compromising quality or performance. In VE, artificial intelligence (AI) opens up unattainable possibilities for process optimization, result prediction, and extensive dataset analysis previously limited by human capabilities. This technical paper highlights the successful application of optimization of after treatment sensors & integration of AI with focus on localization of sensors. This Idea explores the potential of using NOx conversion efficiency & temperature sensor data as a replacement for the urea quality sensor. NOx conversion efficiency & gas temperature, calculated from the difference in NOx concentrations at the SCR catalyst inlet and outlet which the help of NOx concentration measurement sensor, can serve as a proxy for determining DEF quality. High NOx conversion efficiency indicates proper SCR performance and good DEF quality while low efficiency may signal DEF-related issues or dosing problems. The approach involves recalibrating the vehicle's Engine Control Unit (ECU) to monitor NOx efficiency and while this method offers the benefit of reducing sensor dependency and cost, it also needs accurate sensor data and identifying factors other than DEF quality for NOx conversion degradation. While optimizing the sensors we have carefully emphasized on eliminating imported sensors & utilizing indigenous sensors which will help in reduction on imported sources & boosting local suppliers.

Abstract Id – 35

Author's Name – Ashish Ashok Sharma

Author's Designation – Senior Manager

Author's Organization – Tata Motors Passenger Vehicle Limited (tmpv)

Abstract Title – Application Of Value Engineering To Washer Bottle And Pump System

Abstract Topic – Paper - Washer Bottle And Pump Assembly

Abstract – This paper explores the application of Value Analysis and Value Engineering (VAVE) techniques to the washer bottle and pump system of a passenger vehicle, focusing on enhancing value by reducing costs while preserving system functionality and quality. The washer system plays a vital role in vehicle safety and driver visibility, making cost optimization a challenging yet essential task. Through a comprehensive functional analysis of the existing system, the study generated around 14 function-based ideas aimed at improving the overall value of the washer bottle and pump assembly. These ideas were systematically evaluated for feasibility, impact on cost, and effect on performance and reliability. The implementation of VAVE principles led to a significant cost benefit, achieving approximately 28% reduction in part cost. This was accomplished without compromising the core functions or regulatory compliance of the system. The study demonstrates the effectiveness of the VAVE approach in identifying cost-saving opportunities by focusing on the system's essential functions and encourages its broader application in automotive component development to achieve optimized cost-performance balance.

Abstract Id – 36

Author's Name – Pranav Kumar

Author's Designation – Senior Manager

Author's Organization – Tata Motors Cvbu Pune

Abstract Title – Application Of Value Methodology For Designing Safe And Cost-effective Seats In Small Commercial Vehicles

Abstract Topic – Application Of Value Methodology For Designing Safe And Cost-effective Seats In Small Commercial Vehicles

Abstract – The seating system in Small Commercial Vehicles (SCVs) is a key driver-vehicle interface, significantly influencing ergonomics, comfort, safety, and operational efficiency. As a primary contact point, the seat affects driver fatigue, performance, and long-term health, thereby impacting overall productivity and satisfaction. Known for its strong focus on safety, Tata Motors faces the challenge of offering high levels of driver protection while keeping costs low—especially in the budget-sensitive market. The study employs Value Methodology to systematically evaluate the seating system and associated safety components. By analyzing the functional role of each element, the team identified and eliminated features that contributed to cost without enhancing safety. This allowed more focus and resources to be placed on parts that directly improve driver protection and comfort, leading to a smarter and more cost-effective seat design. The findings demonstrate that Comfort and high safety standards can be delivered without significant cost escalation through the application of value engineering principles. Through this study we were able to develop a new design seating system that balances safety, performance, and affordability. With this product we provide improve road safety in 4-wheeler vehicles with crash safe head rest seats and extended driving trips with the help of comfortable and fatigue free ride.

Abstract Id – 37

Author's Name – Hariharan.k

Author's Designation – Associate Tech Lead

Author's Organization – Trane Technologies - Etc India

Abstract Title – Application Of Value Methodology To Optimise The Mounting Provision Of Trailer Refrigeration Units-trane Technologies , Etc-india

Abstract Topic – Application Of Value Methodology To Optimize The Mounting Provision Of Trailer Refrigeration Units-trane Technologies , Etc-india

Abstract – Thermo King is a manufacturer of transport temperature control systems for refrigerator trucks and trailers, refrigerated containers and refrigerated railway cars along with heating, ventilation and air conditioning systems for bus and passenger rail applications. This paper speaks about how VE methodology applied to identify the function of part and to identify an optimized design which could meet the expected functional requirements at lower cost. Also, the objective is to identify any tangential benefits that align with Trane Technologies sustainability goals. The scope under study is "Mounting Provisions of Trailer Refrigeration System" to install the unit in the insulated container. By adopting the VE approach, we were able to save 13 % of the Assembly cost by reducing the quantities of metal hardware by 8 and minimizing TAKT time, in accordance with the Company's Sustainability Goal.

Abstract Id – 38

Author's Name – Shubham Agrawal

Author's Designation – Senior Manager

Author's Organization – Tata Motors

Abstract Title – Application Of Value Methodology On Bus Body Hatrack With Integrated Ac Duct

Abstract Topic – Application Of Value Methodology On Bus Body Hatrack With Integrated Ac Duct

Abstract – International business is a key strategic focus area for TML, with Middle Eastern countries representing a significant and competitive market for commercial buses. In this region, bus purchase decisions are often influenced by passenger feedback and in-vehicle experience. Given the hot climate, there is a heightened demand for superior HVAC (cooling system) performance in bus bodies. To address this, a new hatrack design— proposed by the supplier to improve air distribution and thermal comfort—was swiftly incorporated into TML's design package. However, this enhancement resulted in a substantial increase in cost. Value Methodology (VM) is a structured, function-oriented methodology aimed at improving the value of a product by optimizing its performance-to-cost ratio. It systematically analyses the functions of components and systems to identify opportunities for cost reduction without compromising Quality, reliability, or customer satisfaction. VAVE encourages cross-functional collaboration between design, Manufacturing, sourcing, and suppliers. This value engineering study aims to apply Value Methodology (VM) to the current challenge of optimizing the hatrack design with integrated HVAC ducting. By systematically evaluating the "function versus cost" relationship, the study seeks to identify opportunities for design improvement and cost reduction. The goal is to develop a technically robust, cost-effective hatrack solution that meets the high-performance cooling requirements of the Middle Eastern market, while preserving product integrity and passenger comfort.

Abstract Id – 39

Author's Name – Peeyush Anshu

Author's Designation – Senior Team Lead-design

Author's Organization – Tata Technologies Limited

Abstract Title – Application Of Value Methodology Of Making Electric Vehicle Charging Infrastructure Cost Efficient In India

Abstract Topic – Tech Write Up-save_ev

Abstract – India's electric vehicle (EV) revolution is gaining momentum, but the high cost of charging infrastructure remains a critical barrier to widespread adoption. This paper presents a structured application of the Value Methodology (VM) to improve the cost efficiency of EV charging infrastructure in India without compromising functionality, quality, or performance. A multidisciplinary team conducted a value study incorporating key VM phases—Information, Function Analysis, Creative, Evaluation, and Development— to examine current infrastructure designs and deployment models. Using Function Analysis System Technique (FAST) diagrams and life-cycle cost analysis, the team identified high-cost drivers such as land usage, redundant structural elements, and over-specified electrical components. Creative alternatives, including modular station designs, shared grid connections, and integrated solar power systems, were evaluated for feasibility and value improvement. The study resulted in proposed solutions yielding potential cost savings of 25–30%, while maintaining essential performance criteria. Stakeholder involvement—government bodies, utility providers, OEMs, and end-users—was critical in aligning value objectives and implementation pathways. The study concludes that VM is an effective tool for balancing cost, function, and stakeholder expectations in infrastructure planning. This paper contributes a replicable model for applying VM to large-scale public utility projects in emerging markets, supporting India's broader sustainability and electrification goals.

Abstract Id – 40

Author's Name – Vijay Madhukar Mundhe

Author's Designation – Lead Engineer

Author's Organization – John Deere India Pvt. Ltd.

Abstract Title – A Ve Framework For 'first Time Right' Product Development In Indian Sourcing Ecosystem

Abstract Topic – A Ve Framework For 'first Time Right' Product Development In Indian Sourcing Ecosystem

Abstract – Value Engineering (VE) is a systematic and function-oriented methodology aimed at enhancing the value of products, processes, and services by optimizing their functions relative to cost. In the context of Supply Chain Management (SCM), the application of VE offers a strategic framework to streamline operations, reduce inefficiencies, and improve cost without compromising on quality. This paper examines the integration of Value Engineering (VE) principles into sourcing processes, with a focus on achieving the First Time Right (FTR) objective. By applying VE techniques such as function analysis, organizations can uncover inefficiencies and redesign supplier engagement models to ensure timely, accurate, and value-driven responses. Aligned with the vision of 'Make in India, for the World', this approach empowers Indian supply chains to become globally competitive by enhancing operations, product quality, and customer satisfaction. VE not only supports cost reduction and waste minimization but also drives continuous improvement and sustainable growth. Research indicates that the adoption of VE can lead to efficiency gains of 15% to 30% across various supply chain processes.

Abstract Id – 41

Author's Name – Vikas Jain

Author's Designation – Senior Manager

Author's Organization – Tata Motors Passenger Vehicles Limited

Abstract Title – Value Analysis Of Biw Safety Parts

Abstract Topic – Value Analysis Of Biw Safety Parts_invest

Abstract – In last few decades, Advanced High Strength Steel (AHSS) material requirement is increasing due to high crash safety and durability performance requirement, along with benefit of light-weighting and sustainability for vehicle's body in white (BIW) & suspension parts. The steel sector's import of raw materials and finished products contributes to the overall trade deficit. While India is a major steel producer, it still imports certain steel varieties such as AHSS grades, which impacts not only economy but also the supply chain as well. Heavy reliance on imports makes India vulnerable to global price fluctuations, supply chain disruptions and contributes to a growing trade deficit. B-pillar is one of the most critical structural components in automotive BIW, an imported coated steel is generally used. While technically effective, this material was extremely costly, impacting the overall cost structure of the vehicle. Value Methodology was applied on BIW safety part, functions were identified, Function - Cost - Worth Analysis was done to identify value gap. Various ideas were generated, paired comparison was done to prioritize and finalise the proposal. After receiving management go ahead, proposal was executed and implemented. The outcome enhances economic efficiency, enabling material localization, and reinforcing long-term manufacturing competitiveness.

Abstract Id – 42

Author's Name – Jayraj Machhindra Patare

Author's Designation – Manager

Author's Organization – Lauritz Kundsen Electrical & Automation

Abstract Title – Application Of Value Methodology For Power Contactor

Abstract Topic – Application Of Value Methodology For Power Contactor

Abstract – In today's competitive landscape, productivity and innovation are key drivers of business success. To maintain a competitive edge in the switchgear market, it is essential to offer high-quality products with enhanced features at cost-effective prices. This strategy not only meets evolving customer expectations but also strengthens market presence. The switchgear industry is witnessing a shift in customer preferences toward value-driven solutions. To sustain and grow our market share, we must focus on two critical objectives: A) Delivering superior customer value through competitive pricing, high product quality, and timely delivery by enhancing productivity. B) Driving economic growth by leveraging increased revenue from improved customer satisfaction and service. At Lauritz Knudsen, Electrical & Automation division has successfully implemented a Value Analysis (VA) approach to optimize product design and reduce manufacturing costs—without compromising functionality. The Power Contactor was selected for this initiative due to its relatively low profit margins. Through VA, the team achieved significant cost reductions by minimizing the use of high-value materials, reducing reliance conventional manufacturing process, developing new manufacturing process, developing alternative sourcing strategies to avoid supply chain disruptions. These efforts have resulted in improved productivity and cost efficiency, aligning with both management and customer expectations.

Abstract Id – 43

Author's Name – Pravin Ghadge

Author's Designation – Manager Manufacturing Engineering

Author's Organization – Lauritz Knudsen Electrical And Automation

Abstract Title – Strengthening Economic Foundations Through Value Analysis A Case Study On The Mk1 Dol Starter

Abstract Topic – Strengthening Economic Foundations Through Value Analysis A Case Study On The Mk1 Dol Starter

Abstract – At Lauritz Knudsen Electrical & Automation, we specialize in manufacturing a comprehensive range of switchgear products, primarily serving the agricultural sector. Our portfolio includes starters and controllers for both single-phase and three-phase submersible pumps. Over the past six decades, these products have earned the trust of farmers by consistently delivering reliable performance. The agricultural market, often characterized as a silent customer segment, presents unique challenges. It imposes significant constraints on product modifications—both in terms of aesthetics and performance—leaving limited scope for traditional value engineering approaches such as component elimination or design alterations with visual change. These constraints drive us to focus on Core VE approach to meet evolving market demands without compromising product integrity. Among our offerings, the MK1 Direct-On-Line (DOL) Starter stands out as one of the most widely used and dependable motor starters in India for submersible pump applications. In today's competitive and cost sensitive environment, reducing manufacturing costs without sacrificing functionality has become a critical objective. When the 'function' and 'value' of a product reach a point of equilibrium, achieving further cost reduction becomes a complex challenge. This paper explores how Value Engineering (VE) methodology can be effectively applied to overcome this challenge. Specifically, it presents a case study on cost optimization in the MK1 DOL Starter by targeting high-cost components such as the electromagnet, contact buttons, and enclosure. The analysis focuses on reducing material costs while preserving the essential functions of each component. Lauritz Knudsen has long embraced VE principles to enhance resource efficiency, control production costs, and ensure long-term business sustainability. With the continuous rise in raw material prices, our management initiated a detailed cost analysis of the MK1 Starter, evaluating the functional worth of each cost element. This study demonstrates how VE served as a strategic tool to identify and implement cost-saving opportunities without compromising product performance or customer satisfaction.

Abstract Id – 44

Author's Name – Anil Kumar

Author's Designation – Dgm- Launch Management

Author's Organization – Tata Motors

Abstract Title – Application Of Value Methodology For Heavy Duty Rear Axle In Commercial Vehicle

Abstract Topic – Application Of Value Methodology For Heavy Duty Rear Axle In Commercial Vehicle

Abstract – TML landed up in a "Catch 22" situation due to competitive offering of commercial vehicle customers in 55T Tractors. Retention of market share in overall CV space became imperative through development of innovative mobility solutions, Improvement in contribution margin of HCV segment triggered the need for innovation through VAVE methodology.

VAVE is a strategic imperative for automotive manufacturers seeking to sustain and enhance their market position. By systematically analyzing and optimizing product functions and costs, VAVE drives innovation, efficiency, and customer satisfaction—key pillars for long-term success in the automotive industry. The automotive industry is currently facing significant sustainability challenges due to the limited availability of essential resources such as raw materials, energy, and consumables. To ensure long-term viability and meet evolving consumer expectations, manufacturers must adopt integrated VAVE approach that optimize resource utilization and align with sustainable development goals. The objective of this paper is about the innovative approach followed to perform value engineering of Rear Axle for Heavy commercial Vehicle of 55T Tractor Trailer application by means of weight optimization, cost optimization with improved B10 life and provide optimal Cost of Ownership. An Integral approach is followed were the entire components of Rear Axle assembly were analysed thoroughly using VAVE Methodologies start from Ideas brain storming to Proto Development Phases. Various Tools and Techniques like Function Identification, Function-Cost Worth Analysis, Value Management and Function Analysis System Technique (FAST) utilized in full. The conceptualized optimized Rear Axle designed using the above methodologies has been analysed for Design Strength using Computer Aided Engineering (CAE). Also, the Proto samples developed has been physical tested before final implementation. This paper will explain in detail how successfully we have achieved the Targets of Optimizing the Cost with Best in Class meeting the Product requirements for 55Ton Tractors.

Abstract Id – 45

Author's Name – Anita Lukose

Author's Designation – Ceo

Author's Organization – Atina Systems Llp

Abstract Title – A Function-based And Discourse-informed Approach To Advertising Strategy

Abstract Topic – Fa-cda In Advertisement

Abstract – This paper explores the integration of Function Analysis (FA) and Critical Discourse Analysis (CDA) in advertising strategy, using Indian campaigns such as Fevicol's "Bus" and Surf Excel's "Daag Acche Hain" as case studies. FA provides a structured, engineering-inspired framework to identify the core and supporting functions of advertisements, while CDA reveals how language, imagery, and cultural narratives shape audience perception. By correlating FA's Customer Oriented Function Model with CDA's interpretive lens, this paper demonstrates how advertisers can design campaigns that are both technically purposeful and socially resonant. The result is a hybrid methodology that enhances message clarity, emotional engagement, and long-term brand equity.

Abstract Id – 46

Author's Name – Ranbir Kumar

Author's Designation – Senior Manager

Author's Organization – Euler Motors Pvt Ltd

Abstract Title – Application Of Value Methodology To Improve Ev Battery Life

Abstract Topic – Technical Paper To Improve Ev Battery Life

Abstract – Value methodology (VM) is a structured, function-oriented approach that plays a vital role in optimizing electric vehicle (EV) design, particularly in enhancing battery life and overall system efficiency. As the demand for high-performance, cost-effective, and sustainable EVs continues to rise, improving battery longevity through intelligent design becomes a top priority. This study explores the application of value methodology in identifying and prioritizing key functions related to EV battery systems, with a focus on thermal management. By systematically analyzing functions and evaluating alternative solutions, VM enables engineers to achieve optimal trade-offs between performance, cost, and reliability. The implementation of VM in battery thermal management systems—such as air, liquid, and phase change cooling—demonstrates measurable improvements in battery lifespan and energy conservation. Furthermore, the methodology supports innovation while maintaining cost-effectiveness, making it highly applicable to the competitive EV industry. This paper underscores the importance of value methodology as a strategic tool for extending battery life, improving vehicle performance, and supporting sustainable mobility solutions.

Abstract Id – 49

Author's Name – Ranbir Kumar

Author's Designation – Senior Manager

Author's Organization – Euler Motors Pvt Ltd

Abstract Title – Application Of Value Methodology For Enhancement Of Driving Range

Abstract Topic – Techanical Paper

Abstract – Value methodology (VM) offers a systematic, function-focused approach to improving electric vehicle (EV) performance while controlling costs. One critical area where VM proves highly effective is in enhancing the driving range of EVs through the optimization of regenerative braking systems. Regenerative braking allows energy typically lost during deceleration to be recaptured and reused, directly contributing to increased energy efficiency and extended vehicle range. This study applies value methodology to identify, analyze, and optimize the core functions of regenerative braking systems, focusing on energy recovery, system integration, and cost-effectiveness. By employing tools such as function analysis, FAST diagrams, and cost performance evaluation, the methodology guides the development of innovative, high-value solutions that maximize energy recuperation without adding excessive complexity or cost. The results highlight the role of VM in balancing technical performance with economic viability, making it an essential strategy in the advancement of EV technologies. Ultimately, the use of value methodology enhances not only regenerative braking efficiency but also supports broader goals of range extension, sustainability, and user satisfaction in electric vehicles.

Abstract Id – 50

Author's Name – Rakesh Cheeli

Author's Designation – Deputy General Manager

Author's Organization – Tata Motors Ltd

Abstract Title – Cost-effective Automotive Innovation: A Value Engineering Study Of Antenna Solutions For Hcv Trucks

Abstract Topic – Rc Vave Study On Antenna For Hcv Trucks

Abstract – This study applies classical Value Analysis and Value Engineering (VAVE) to reduce cost and import dependency by replacing imported shark-fin FM antennas with indigenous internal antennas. The solution achieves a cost saving of ₹2,060 per vehicle, simplifies assembly, and maintains signal performance.

Abstract Id – 51

Author's Name – Ganpati Rama Kamble

Author's Designation – Sr Manager

Author's Organization – Tata Motors Ltd

Abstract Title – Invest Paper- Design Of Corrugated Tube In Feed Line To Dampen The Pulsation & Improve Vehicle Performance

Abstract Topic – Final Paper - Value Methodology-design Of Corrugated Tube In Feed Line To Dampen The Pulsation & Improve Vehicle Performance

Abstract – In today's technological landscape, automobiles are engineered with customer safety and comfort as top priorities. Comfort is influenced by vehicle performance and ergonomics, reduced component complexity, and engine feedback such as NVH (Noise, Vibration, and Harshness). High-quality performance—encompassing reliability and driving dynamics—strongly drives customer satisfaction. A well-designed fuel system contributes significantly by ensuring smooth acceleration, minimizing engine vibration, and maintaining consistent performance, all of which result in a more enjoyable ride. However, pressure pulsations in the fuel system—caused by injector cycling, pressure fluctuations from low- and high-pressure pumps, resonant effects due to fuel rail dimensions and materials, and flow disruptions from in-line filters, sharp bends, or abrupt diameter changes—can destabilize fuel flow and intensify pressure variations. Traditional mitigation methods like pulsation dampers, inline dampers, flow restrictors, and rubber hoses do address these issues but increase both cost and system complexity. To address this, our paper proposes an innovative, cost-effective solution integrating corrugated feed-line tubing. Its wavy, flexible structure passively dampens pressure pulsations, absorbs vibration, and adapts to engine movement—providing reduced noise and enhanced durability without the expense or complexity of additional hardware.

Abstract Id – 52

Author's Name – Vivek Vijay Tikait

Author's Designation – Project Manager

Author's Organization – Tata Technologies At Tata Motors Ltd

Abstract Title – Design Of Corrugated Tube In Feed Line To Dampen The Pulsation & Improve Vehicle Performance

Abstract Topic – Design-corrugated Tube In Feedline To Dampen Pulsation & Vehicle Performance

Abstract – In today's technological landscape, automobiles are engineered with customer safety and comfort as top priorities. Comfort is influenced by vehicle performance and ergonomics, reduced component complexity, and engine feedback such as NVH (Noise, Vibration, and Harshness). High-quality performance—encompassing reliability and driving dynamics—strongly drives customer satisfaction. A well-designed fuel system contributes significantly by ensuring smooth acceleration, minimizing engine vibration, and maintaining consistent performance, all of which result in a more enjoyable ride. However, pressure pulsations in the fuel system—caused by injector cycling, pressure fluctuations from low- and high-pressure pumps, resonant effects due to fuel rail dimensions and materials, and flow disruptions from in-line filters, sharp bends, or abrupt diameter changes—can destabilize fuel flow and intensify pressure variations. Traditional mitigation methods like pulsation dampers, inline dampers, flow restrictors, and rubber hoses do address these issues but increase both cost and system complexity. To address this, our paper proposes an innovative (Patented Design), cost-effective solution integrating corrugated feed-line tubing. Its wavy, flexible structure passively dampens pressure pulsations, absorbs vibration, and adapts to engine movement—providing reduced noise and enhanced durability without the expense or complexity of additional hardware.

Abstract Id – 53

Author's Name – Ramkumar Arumugam

Author's Designation – Team Lead - Vave

Author's Organization – Allegion India Private Limited

Abstract Title – Handa Golden Key Award-allegion India Private Limited

Abstract Topic – Handa Golden Key Award - Allegion India Private Limited

Abstract – The primary purpose of Value Engineering (VE) at Allegion is to enhance product value, optimize costs, and improve customer satisfaction. VE methodologies are used to identify and eliminate unnecessary costs while maintaining or improving product quality, functionality, and performance. By leveraging VE principles, Allegion has achieved measurable outcomes such as cost savings, improved operational efficiency, and sustainability advancements.

Abstract Id – 54

Author's Name – Harekal Raghavendra Rao

Author's Designation – Engg Consultant

Author's Organization – Freelancer

Abstract Title – Value Management And The Evolution Of Pillars Of Economic Framework

Abstract Topic – Value Management And The Evolution Of The Pillars Of Economic Framework

Abstract – The foundational levers of a nation's Economic Framework are human capital development, productive capacity, innovation, sustainable growth and governance. They encompass a wide umbrella of parameters involving people, process, governance, innovation and growth, each of which contribute to the success of a business or organization, and in general to the economy of a nation. It is paramount that these pillars be strengthened for effective functioning of an organization or an economy and thereafter evolved to keep up with overall development. Through deploying a strategic Value Management (VM) approach, maximization of value derivable from these pillars can be ensured through evolution over time. In the last few decades, there has been significant evolution in each of the above-mentioned pillars. In this paper, I would like to highlight how Value Management (VM) has been a key contributing factor to this metamorphosis. Also, in the same context, an attempt is made to analyse the Functions of VM in each of these levers and how they have contributed towards this evolution.

Abstract Id – 55

Author's Name – Ravindra Devendra Padwal

Author's Designation – Deputy General Manager

Author's Organization – Tata Motors Passenger Vehicle Ltd

Abstract Title – Empowering Economic Growth With Value Methodology By Extending Active Enginnering Life And Market Life Of Vehicle

Abstract Topic – Invest_award Application For Mohta Trophy- Tata Motors Passenger Vehicle Ltd

Abstract – The most widely used independent suspension system is the MacPherson Strut. Almost every passenger car today has this setup at the front and a simpler coil spring at the rear. MacPherson Strut includes a simple assembly of coil spring and a damper/shock absorber. The task of the spring is to store the energy from a sudden jerk from the road. The damper uses hydraulic fluid to dissipate this energy in form of heat. Together they restrict any unwanted movement of the car because of undulations on the road.

As the name suggests, Double Wishbone or Double-A suspension setup has the shape of a bone found in birds. It is also an independent setup and has two A-shaped control arms. These control arms connect to the wheel and frame of the vehicle at either end. One arm is generally shorter than the other one. As a result of this, during cornering, the tyre remains in contact with the ground because of camber gain.t doesn't directly connect to the chassis, it is very flexible especially around the corners. The spring and damper placement are also very flexible according to the availability of space.

Abstract Id – 56

Author's Name – Ravindra Devendra Padwal

Author's Designation – Deputy General Manager

Author's Organization – Tata Motors Passenger Vehicle Ltd

Abstract Title – Application For Invest Golden Awards -handa Golden Key And Vasantrao Trophy Award

Abstract Topic – Invest Golden Awards Applications- Tata Motors Passenger Vehicle Ltd Pune

Abstract – Value Methodology principles across product development, supply chain, and manufacturing processes directly contributes to cost competitiveness, improved performance, and customer-centric innovation. It ensures that every rupee spent delivers maximum return—technically, commercially, and environmentally. Value Methodology drive efficiency, innovation, and resource optimization, thereby reinforcing the core pillars of any economy: productivity, sustainability, and inclusivity.

Abstract Id – 57

Author's Name – Mohan, Akash Mohan, Vishwanath

Author's Designation – Associate General Manager, Technical Lead, Technical Manager

Author's Organization – Hcl Technologies

Abstract Title – Application Of Value Methodology For Cost Optimization In Visi Coolers

Abstract Topic – Application Of Value Methodology For Cost Optimization In Visi Coolers

Abstract – This technical paper presents a structured Value Analysis and Value Engineering (VAVE) case study undertaken for a customer aiming to identify cost reduction opportunities in three models of visi coolers designed and manufactured by ODM partners. The objective was to perform benchmarking, teardown analysis, performance testing, and structured value methodology to generate actionable cost-saving ideas. The activity not only provided insight into design and performance inefficiencies but also identified potential improvements using systematic tools such as FAST analysis and cost-function mapping. This resulted in a total of 100+ cost reduction ideas across all the three models. The ideas are having a total BOM cost saving opportunities for each model ranging from 19.2% to 34.2%.

Abstract Id – 58

Author's Name – Ketan Chougule

Author's Designation – Sr Engineer Iii

Author's Organization – John Deere

Abstract Title – Application Of Value Methodology For Drawbar Mounting

Abstract Topic – Application Of Value Methodology For Drawbar Mounting

Abstract – Agricultural mechanization is essential for improving productivity and achieving sustainable economic development. This study applies Value Methodology (VM) to enhance the design and manufacturing efficiency of a critical tractor component—the drawbar support bracket. Traditionally manufactured in a high-cost region (R4), the existing bracket features a complex welded structure that increases production time and cost. Through a structured Value Engineering (VE) Job Plan, including the Information, Function Analysis, and Creative phases, and the application of the Function Analysis System Technique (FAST), this project identifies opportunities for cost and weight reduction. The redesigned bracket, intended for production in a Best Cost Country (BCC)—India, targets a 10% reduction in both weight and cost. This approach not only simplifies manufacturing and reduces material usage but also supports strategic sourcing and local economic development. The initiative demonstrates how legacy components can be re-evaluated using VM principles to uncover hidden value, improve margins, and enhance global supply chain efficiency. As the agricultural industry becomes increasingly competitive, delivering cost-optimized solutions without compromising product quality is imperative. This project exemplifies how VMF (Value Methodology Framework) can be leveraged within organizations like John Deere to drive continuous improvement and innovation in critical component design.

Abstract Id – 59

Author's Name – Hisaya Yokota

Author's Designation – President

Author's Organization – Functional Approach Institute Co., Ltd.

Abstract Title – Application Of Value Methodology For Health - Functional Approach Institute & Hisaya

Abstract Topic – Application Of Value Methodology For Health - Functional Approach Institute & Hisaya

Abstract –This study applies Value Methodology (VM) to health promotion, a field rarely addressed in VM practice. Based on Dr. Takaaki Nakano's "6 Elements of Health"—Posture, Sleep, Nutrition, Movement, Mind, and Breathing—the author defined 31 functional actions through interviews and structured them using the Function Analysis System Technique (FAST). Fifteen key functions were quantified via 26 behavioral questions, each rated on a five-point scale. The responses were aggregated according to the FAST hierarchy and adjusted by age and gender to generate a single score: the Health Quotient (HQ). To enhance interpretability, two secondary indicators—Health Foundation and Health Endurance—were plotted to visually map individual health profiles. This framework classifies users into nine health types and encourages self-awareness and comparison with others. The system enables anyone to measure their HQ online in just five minutes, offering both a practical assessment tool and a motivational guide for ongoing health improvement. This research demonstrates that VM can effectively clarify, quantify, and enhance human well-being through structured functional thinking.

Abstract Id – 60

Author's Name – Akio Tsuchiuchi

Author's Designation – Manager

Author's Organization – Fujifilm Corporation

Abstract Title – The Approach To Generating New Business Ideas Using Value Engineering And Patent Database Analysis Methods

Abstract Topic – The Approach To Generating New Business Ideas Using Value Engineering And Patent Database Analysis Methods

Abstract –

Abstract Id – 60

Author's Name – Akio Tsuchiuchi

Author's Designation – Manager

Author's Organization – Fujifilm Corporation

Abstract Title – The Approach To Generating New Business Ideas Using Value Engineering And Patent Database Analysis Methods

Abstract Topic – The Approach To Generating New Business Ideas Using Value Engineering And Patent Database Analysis Methods

Abstract –

Abstract Id – 61

Author's Name – Ryuichi Ishitobi

Author's Designation – Managing Director

Author's Organization – Kendensha Co., Ltd.

Abstract Title – Improvement Of International Competitiveness Of The Sludge Dewatering Machine Applying Value Engineering

Abstract Topic – Improvement Of International Competitiveness Of Sludge Dewatering Machine Applying Value Engineering

Abstract – This study reports a case which succeeded in reducing cost and improving production efficiency in the design and the production processes of an elliptical disc type sludge dewatering machine by applying VE methods. In the design phase, the frame material was replaced from an austenitic stainless steel 'SUS 304' to a lean duplex stainless steel. Optimizing the thickness of the plate, the weight of the frame was reduced by 50% without compromising the strength or the dewatering efficiency. Besides, in the production phase, introduction of a welding collaboration robot with copper welding jigs for temporary assembling reduced dependence on skilled techniques. As a result, man-hour was reduced by 10 per cent. These measures enabled us to develop localized, competitively priced products for Southeast Asia, enhancing market competitiveness. There has also been a wide-ranging ripple effect in our company, such as reduction in total CO2 emission and a VE mindset has taken root in the team.

Abstract Id – 62

Author's Name – Abhay Chugh

Author's Designation – Dgm

Author's Organization – Euler Motors Pvt Ltd

Abstract Title – Application Of Value Methodology For Enhancement Of Driving Range

Abstract Topic – Application Of Value Metholodogy For Enhancement Of Driving Range

Abstract – Value methodology (VM) offers a systematic, function-focused approach to improving electric vehicle (EV) performance while controlling costs. One critical area where VM proves highly effective is in enhancing the driving range of EVs through the optimization of regenerative braking systems. Regenerative braking allows energy typically lost during deceleration to be recaptured and reused, directly contributing to increased energy efficiency and extended vehicle range. This study applies value methodology to identify, analyze, and optimize the core functions of regenerative braking systems, focusing on energy recovery, system integration, and cost-effectiveness. By employing tools such as function analysis, FAST diagrams, and cost-performance evaluation, the methodology guides the development of innovative, high-value solutions that maximize energy recuperation without adding excessive complexity or cost. The results highlight the role of VM in balancing technical performance with economic viability, making it an essential strategy in the advancement of EV technologies. Ultimately, the use of value methodology enhances not only regenerative braking efficiency but also supports broader goals of range extension, sustainability, and user satisfaction in electric vehicles.

Abstract Id – 63

Author's Name – Vivek Sonar

Author's Designation – Head, Imcr-pd

Author's Organization – Mahindra & Mahindra Ltd - Trucks & Bus

Abstract Title – Confluence Of Titans: Project Management & Value Management/methodology

Abstract Topic – Confluence Of Titans - Project Management & Value Methodology

Abstract – Project Management has been existing for centuries & has evolved over a period of time. Right from building of the pyramids to our own Ellora temple through the invention of PERT-CPM techniques to today's advanced stage blending usages of AI & other relevant technologies. It's widely available & used by professionals & practitioners for managing smallest to most complex projects across industries, sectors, societies & countries, from projects for profits to projects for social causes. If fact, the knowledge, the tools & techniques in Project Management can also well applied to our life if we believe managing our life is also a project. Each project brings a certain set of Value to its end customers & users. Whether through real-world products or sometimes through services. All projects are conceived around identifying & delivering a "Value" to the organization as well as its customers, stakeholders & the world. On other hand, Value Methodology also known as Value Engineering (VE) & Value Analysis (VA) is another powerful concept used in the world by professionals from across walks of life for identifying & delivering "Value" at the most frugal way. VM or VAVE is a systematic and function based approach to improve the value of projects, products, processes, and organizations. Both Project Management & Value Methodology was strong concepts & highly regarded professional competencies with significant overlapping areas hold their unique propositions. This paper brings out the salient aspects of these two powerful concepts & explores potential areas of confluence with an aim to maximise the "Value" or the Project Delivery by leveraging the Best of both Powerhouses !!

Abstract Id – 64

Author's Name – Parag Bhikaji Samant

Author's Designation – Deputy General Manager- Cost Engineering

Author's Organization – Tata Motors Cvbu Pune

Abstract Title – Smart Integration Of Skills & Knowledge In Cost Engineering Using Vm At Tata Motors Ltd

Abstract Topic – Paper On Smart Integration Of Skills & Knowledge In Cost Engineering Using Vm At Tata Motors Ltd

Abstract – The cost management techniques at Tata Motors evolved over last 3 decades from cost plus profit margin approach to proactive cost management, however profit margin continued to matter of worry. In 2017, when company defined transformation strategy, the robust cost management system leading to sustained profitability was recognized as a key challenge. This challenge was only going to be tougher due to upcoming regulatory changes, implying transition from BS4 to BS6. This called for the product upgradations while maintaining or enhancing competitiveness and overcoming challenges of ever-increasing commodity prices. This triggered the need of radically changing the cost management system at Tata Motors & lead to formation of a dedicated Cost engineering department. Cost Engineering is a process to Estimate, manage and control cost across the life cycle of a product, Further it can be said that the output of a cost engineering exercise is not an end in itself but rather an input for Designer to meet the Target Cost and for Purchase to negotiate right price for procurement of parts. An integrated system was unavailable which led to non-standard cost data, absence of program & benchmark cost repository for analysis & cross deployment. This Paper is an attempt to explain How Value Methodology was used in the integration of employee's skills & available Knowledge based data in forming the Cost Engineering department responsible for cost management system. In Tata Motors, VAVE was successfully implemented in last 10 years & improved the value of Products. The same technique was used while formation of Cost Engineering Department. Value Methodology Job plan was followed. The existing process of cost estimation was mapped and each stage was correlated to VM Job Plan. In Information stage a cost engineer was gathering the information from Design & drawings including that of all child parts, identified key cost drivers like Raw material, Manufacturing process & Overheads. In Estimation stage, the engineer would use a relevant Excel costing template to calculate the cost. Functions were identified for each stage of Cost Engineering process.