UNIVERSITY of HOUSTON

OPERATIONAL EXCELLENCE BY DESIGN
2-DAY WORKSHOP

Cullen College of Engineering, Department of Industrial Engineering

Time is the enemy of the 21st Century Organization. And the competitive advantage will be those who; • Can see further beyond the horizon • Recognize opportunities and threats sooner • Devise and deploy a decisive response faster • Set the pace and maintain control of the execution phase and narrative • Know and can rely on the capacity and capabilities of their leadership, resources, processes, technology, and value-chain – who have a superior level of "operational excellence" – to press the prosecution of their strategies.

Leveraging Design Thinking and Design For Six Sigma to compress time

The combination of Design Thinking and Design for Six Sigma (DFSS) can create a powerful and comprehensive approach to prob-lem-solving, innovation, and process improvement. Each methodology brings its unique strengths to the table, and their integra-tion can enhance the overall effectiveness of the design and improvement processes. As such, organizations can create a holistic approach that not only ensures high-quality processes but also delivers innovative and user-friendly solutions, ultimately leading to increased customer satisfaction and business success.

Who benefits and how do they benefit?

Customers/Users:

Holistic Solutions: The combination ensures that products and services not only meet high-quality standards (DFSS) but are also designed with a deep understanding of user needs and preferences (Design Thinking).

Enhanced User Experience: The iterative nature allows for continuous improvement based on user feedback, resulting in products and services that align better with customer expectations.

Product and Service Design Teams:

Innovation: Design Thinking fosters a creative environment, promoting ideation and out-of-the-box thinking. DFSS complements this by providing a systematic approach to ensure the feasibility and reliability of innovative solutions.

Optimized Processes: DFSS ensures that the processes used to design and develop products are efficient and produce high-quality results. This aligns with the goals of Design Thinking to create user-centric and innovative solutions.

Business Leaders and Executives:

Competitive Advantage: The combination enables organizations to not only deliver high-quality products and services consistently (DFSS) but also stay innovative and responsive to changing market demands (Design Thinking).

Operational Efficiency: DFSS contributes to operational excellence, reducing costs and enhancing efficiency, while Design Thinking helps in identifying new business opportunities and

Human Resource and Employees:

Engagement and Empowerment: Employees benefit from a culture that encourages collaboration, creativity, and problem-solving (Design Thinking). DFSS adds value by providing structured methodologies to streamline processes, reduce errors, and increase overall efficiency.

Quality and Continuous Improvement Teams:

Robust Solutions: DFSS ensures that the solutions designed are robust, reliable, and meet quality standards. Design Thinking complements this by emphasizing user satisfaction and adaptability.

Continuous Improvement: The iterative nature of Design Thinking aligns well with the continuous improvement philosophy, allowing teams to continuously refine and enhance processes based on user feedback.

Supply Chain and Operations Teams:

Efficient Processes: DFSS contributes to the optimization of manufacturing and operational processes, reducing variations and enhancing efficiency. Design Thinking ensures that the designed products are compatible with streamlined supply chain processes.

Shareholders and Investors:

Sustainable Growth: Shareholders benefit from a combination that not only focuses on delivering consistent, high-quality products and services (DFSS) but also ensures the organization remains innovative, adaptable, and poised for sustainable growth (Design Thinking).

Design Thinking is a structured and user-focused method that aims to enhance operational processes and boost overall organizational performance. It integrates empathy, creativity, and iterative problem-solving to promote innovation, improve user experiences, and optimize operational efficiency. This approach offers a fresh perspective on addressing complex challenges and is characterized by a mindset that values curiosity, collaboration, and a willingness to embrace failure as a natural part of the creative process.

Design for Six Sigma (DFSS) is a systematic methodology used to design or redesign processes, products, and services with the goal of achieving high levels of performance, reliability, and cus-tomer satisfaction. It is an extension of the Six Sigma methodol-ogy, which focuses on improving existing processes and reducing variation in manufacturing and business processes. DFSS is particularly applied during the design phase to ensure that the final product or process meets or exceeds customer expectations and quality standards.

Agenda

Day-1

0800h Coffee and Crullers; Create Personal "Stickies"
0830h Welcome, Introductions, and Agenda Review
0900h Introductions to Operational Excellence, Design Thinking (DT4OpEx®) and Design For Six-Sigma (DFSS)
1030h Break
1045h Walk "Turning Vision into a Reality" DT4OpEx® Billboard and review the logical elements and their use.
1200h Lunch
1300h Walk "Creating and OpEx Program". Engage and moderate DT4OpEx® Billboard
1400h Creating a DT4OpEx® Billboard
1500h Break
1515h The Billboard "7-Step Process", a guide from start-to-finish for engagements and workshops
1630h Open Discussion
1700h End of Day

Day-2

0800h Coffee and Crullers
0830h Welcome, Introductions, and Agenda Review
0900h Why DFSS and exploring the synergies that exist between DT4OpEx® and DFSS
1030h Break
1045h Initiate Project (empathize, define, ideate, prototype, test, optimize, verify, and launch.
1200h Lunch
1300h Explore and discuss the innovation tools and processes
1400h Present and discus a Case Study
1500h Break
1515h The Synergies of OpEx, DT4OpEx®, and DFSS
1600h Review Stickies
1630h Open Discussion
1700h End of Day

Joseph F Paris Jr is the President of XONITEK and the Operational Excellence Society. He is a recognized global expert in the field operational excellence; an international entrepreneur; a prolific writer; and a sought-after strategist, consultant, and speaker. His book, "State of Readiness" (May 2017) has been endorsed by senior business leaders from some of the most respected organizations in the world. Paris currently serves on: • the Advisory Board of the School of Systems Science and Industrial Engineering (SSIE) in the Watson College of Engineering at Binghamton University • an Adjunct Professor at the Lucerne University of Applied Science and Arts (HSLU) • and was previously an Adjunct Professor at Cornell University's Johnson School of Management.

Dr. Matthew Hu is a distinguished expert in industrial fields like robust engineering, quality, and reliability. He holds certifications as a Robust Design Expert (using the Taguchi Method), a Lean Six Sigma Master Black Belt, a Quality Engineer, and a Reliability Engineer, showcasing his exceptional expertise. Dr. Hu has collaborated with renowned quality pioneers such as Dr. Deming, Dr. G. Taguchi, and Dr. Mikel Harry. Apart from his certifications and collaborations, Dr. Hu serves as the Program Director for Engineering Management at the University of Houston. Throughout his professional journey from engineer to executive, he has extensively collaborated and consulted with notable clients in various industries, including Automotive (GM, Chrysler, Ford), Autonomous Driving Technologies, Oil & Gas (Schlumberger, Baker Hughes), Home Appliance/HVAC (Haier), Electronics (Molex, Foxconn), Wind Energy, and United Technologies Corporation.