




SYSTEM SAFETY: OVERLOOKED PRACTICES

Sonia Bot & Tony Zenga



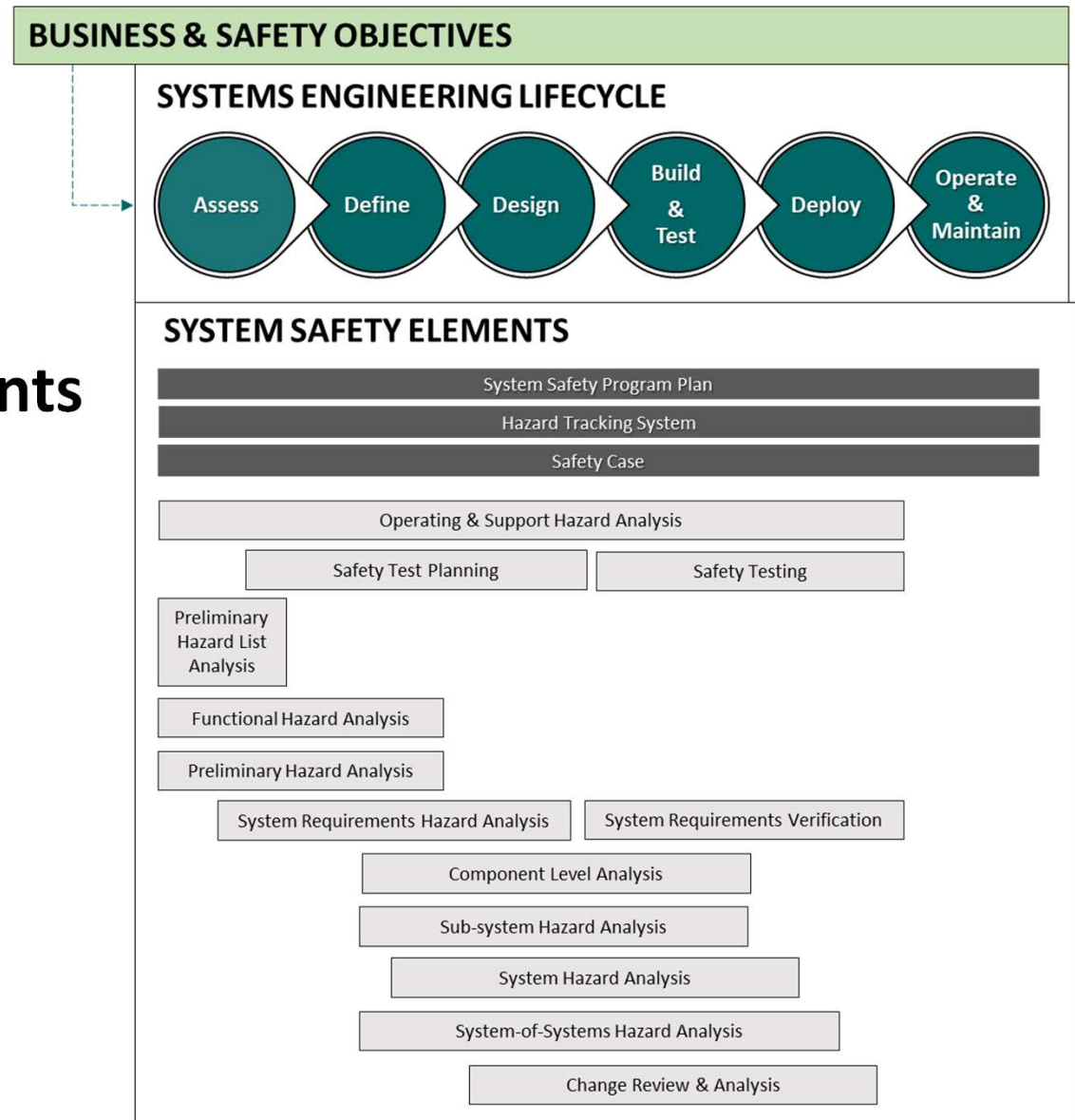
What are the three often neglected or not fully understood aspects of system safety practices?

1. Integration (or lack of) system safety in the systems engineering lifecycle
2. Designing for safety
3. Process-based safety performance management



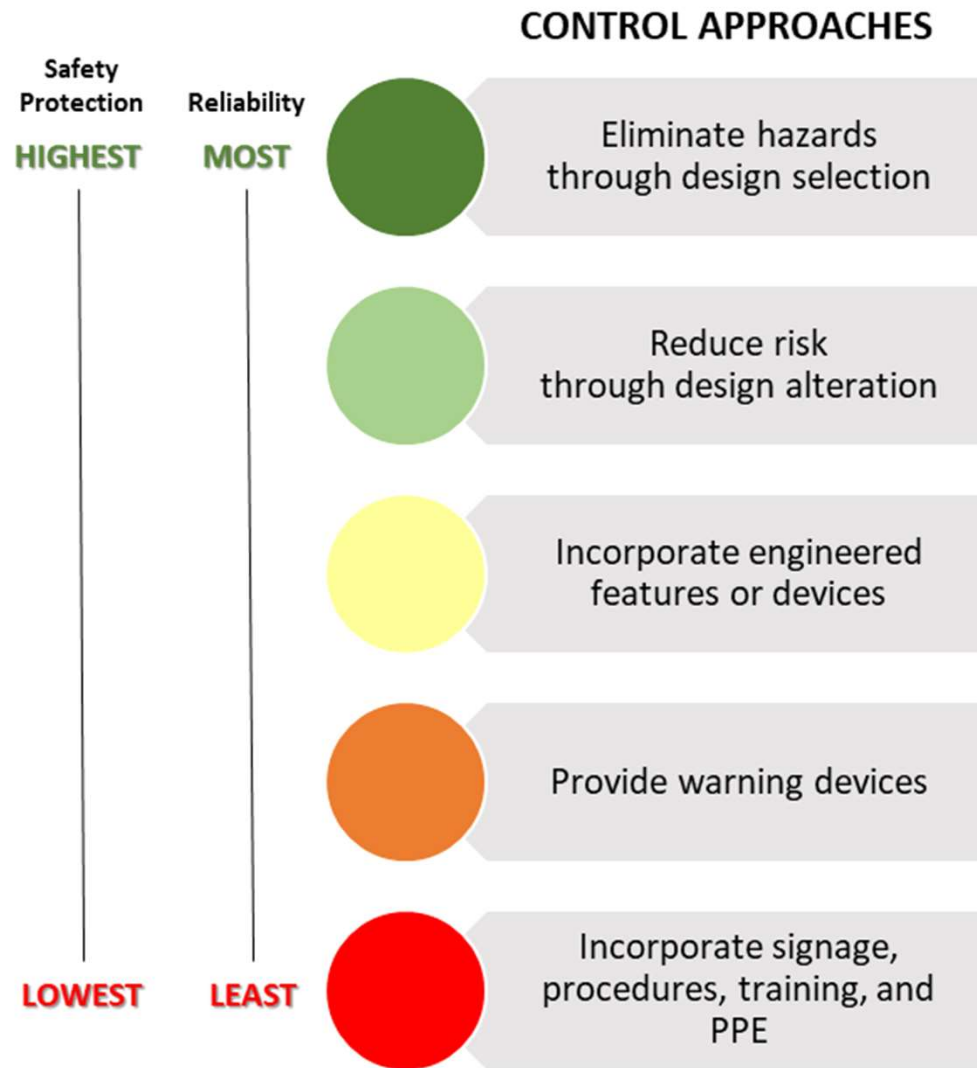
What is System Safety Engineering?

Describe the components of developing a System Safety Program Plan



**You talk about
“Safety by Design.”**

**How can safety be
“designed.”**

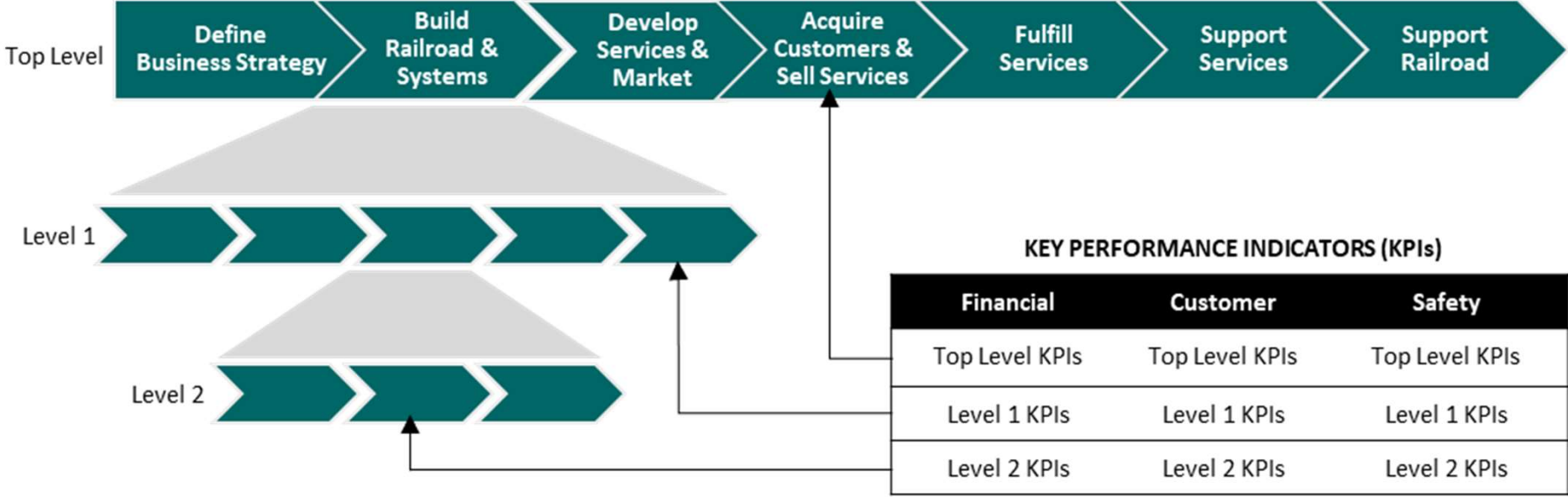


Reference: MIL-STD-882E DoD Standard Practice – System Safety
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What is a KPI?

How is it applied?

PROCESS LEVELS



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Getting back to “Industry 4.0.” Why does it require system safety?

INDUSTRY 4.0 AND SYSTEM SAFETY

- ❖ **How do we know that these solutions and systems are safe and that there are no lurking issues?**
- ❖ **How do we know that the integration of multiple components from vendors, partners, and even from within meet safety objectives?**
- ❖ **How do we know if safety integrity is preserved after a change is made?**
- ❖ **How do we shift the paradigm where safety moves from a cost center to a value-added business driver?**



SONIA BOT, chief executive of The BOT Consulting Group Inc., has played key roles in the inception and delivery of several strategic businesses and transformations worldwide. She's navigated through downsizing, right-sizing, de-regulations, SEC investigations, and economic downturns / scale-ups, let alone work through one of the largest and high-profile global corporate bankruptcies in the world.

By utilizing methodologies in entrepreneurship, business precision, Lean Six Sigma, systems and process engineering, and organizational behavior she's enabled organizations to deliver breakthrough results along with providing them a foundation to continue to excel. Her approaches on the evolution of companies and industries are game changers that drive innovation and competitive advantage.

Her experience ranges from Fortune 500 corporations through to medium-sized ones, plus SMBs and start-ups. Industries include high technology, media, telecommunications, information and computing technology, railroading, transportation, energy, medical and healthcare, aerospace and defense, and education.

She holds engineering degrees from the University of Waterloo (BMath) and the University of Toronto (MAsc) and is a certified Lean Six Sigma Master Black Belt.

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TONY ZENGA is the ISSS Canada Chapter President and owner of CMTIGroup Inc. Tony is an accomplished specialty engineering consultant with international experience in operational reliability and safety for mission critical systems. He has played key roles in the implementation of System Safety engineering programs for aerospace, defense, high tech, air traffic control, mass transit and rail infrastructure projects worldwide.

By leveraging on his design and development experience of largescale safety-critical systems, combined with his systems engineering knowledge, he enables organizations to deploy their systems safely into field operation.

Tony was awarded the ISSS Manager of the Year Award in November 2020. He holds a Bsc, Engineering degree and is a certified software engineer from University of British Columbia.

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Business Advantage by Design



FOR MORE INFORMATION

SPECIFIC TO THIS PRESENTATION

Bot, Sonia D. and Tony Zenga. 2020. Safety Doesn't Happen by Accident: System Safety Comes of Age, PART 3: Identifying Overlooked Practices. *Railway Age*. December 2020.

PDF: [Railway Age December 2020 System Safety Part 3-BotZenga-Magazine](#)

Link: [System Safety, Part 3: Identifying Overlooked Practices – Railway Age](#)

Bot, Sonia D., Tony Zenga, William C. Vantuono (editor). 2020. Safety Doesn't Happen by Accident: System Safety Comes of Age, PART 3: Identifying Overlooked Practices. *Rail Group On Air (Railway Age; Rail, Tracks, and Structures; International Railway Journal)*. Podcast. December 2020.

PODCAST: [Safety Doesn't Happen By Accident Part 3: Rail Group On Air Podcast – Railway Age](#)

TRANSCRIPT: [TRANSCRIPT-RailwayAge-SystemSafety-Podcast3-2020-11-16](#)

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