Top Ten Ways Engineers undermine their own success

INCOSE North Star Chapter, 1-10-2019
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IR Ingersoll Rand.

Agenda

- Introduction
- The Disclaimer
- The "Top Ten"
- The Take-Aways
- Discussion

Introduction

- Me
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    Sean McCoy is the Chief Architect of controls at Trane. He received is CSEP in 2016, has 13 patents, is a 6-Sigma black belt, and has over 35 years of experience designing and building software systems; 22 of those at Trane developing Building Automation Systems. Sean's most recent assignment was leading the development effort for the Requirements Management, Process Automation, and Test Management tools in PTC Integrity. Sean is an active member of INCOSE and the president of the North Star chapter of INCOSE for 2019. In his spare time, Sean likes to play guitar and can often be seen at Rock Camp Experience events.

- The material

Introduction to Trane/Ingersoll-Rand

- A $14 billion diversified industrial company
- Design, test, and manufacturing facilities worldwide
- Operations in every major geographic region
- Strategic brands are #1 or #2 in their market
  - Trane
  - Ingersoll Rand
  - Thermoking
  - Club Car

Disclaimer

- For the engineers:
  - The subjects presented do not always have black-and-white answers, which is not like engineering.
  - New skills and knowledge are required.
- Find the ideas that are helpful and practical for you.

- Symptoms
    - One contextual version of "right" is given priority over others.

- What is "technically right" often has gaps
    1. What is the effect on testing and the test lab?
    2. What is the effect on manufacturing (inventory, Takt, etc.)?
    3. What is the effect on training and documentation?
    4. What is the effect on the upgrade-path from previous version?
    5. What is the effect on parts, service, service technicians, legacy installations?
    6. What is the effect on supply-chain and business partnerships?
    7. What is the effect on the project schedule and resource allocation?
    8. What is the effect on the financials and business case?
    9. What is the effect on warranty and reliability?
    10. What is the effect on intellectual property?
    11. Is the timing right? Some ideas are before their time.

- Alternative thoughts to "being right":
    1. Help the organization, or team, to succeed by coming to the best answer; which often includes more perspectives than just a technical perspective.
    2. A good solution that has cross-functional support has a higher probability of success over a solution with cross-functional resistance.
    3. Value collaboration over competition - Focus on team collaboration and positive working relationships over "being right".

- Symptoms
 - Reluctance to participate, domination by a single person or small group, defensiveness, possessiveness, and lack of innovation

- We can debate whether or not it's ok to think this. I hope we can agree that it is not helpful to say this.
  1. To what degree do technical leaders need respect?
  2. To what degree is being respectful needed to gain the respect of others?
  3. What positive outcome comes from making this statement:
     - To peers, to subordinates, to superiors, to customers, to vendors

- Alternative thoughts to calling ideas, and people, "stupid":
  1. Using less accusatory language is helpful: "Help me understand…", "I am not following…", "What do you mean…"
  2. Focus on understanding over making a judgment. (See Covey's Seven Habits book.)
  3. Look for positive intent in the ideas that sound questionable.
  4. Focus on relationships over results.

TRANE BUILDING ADVANTAGE
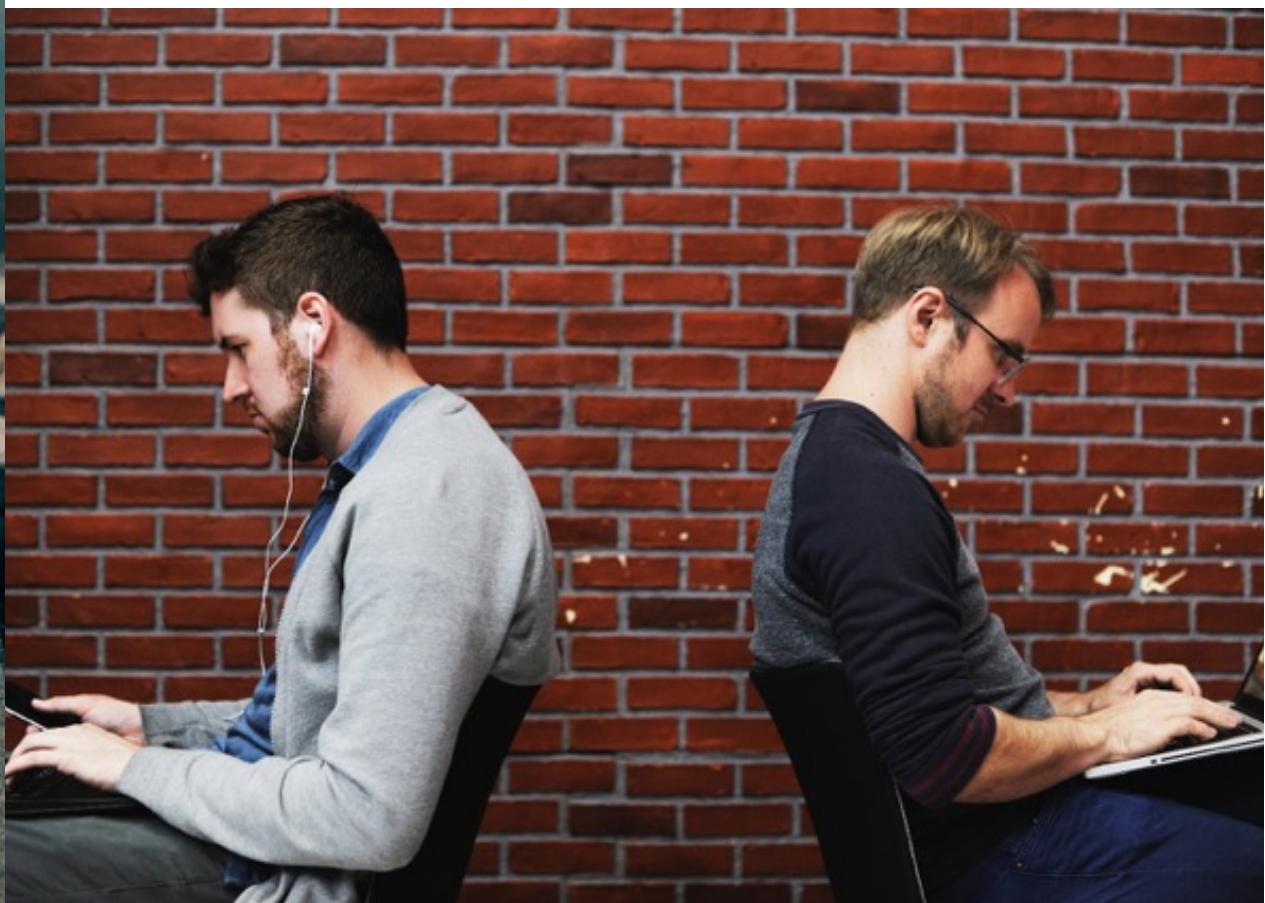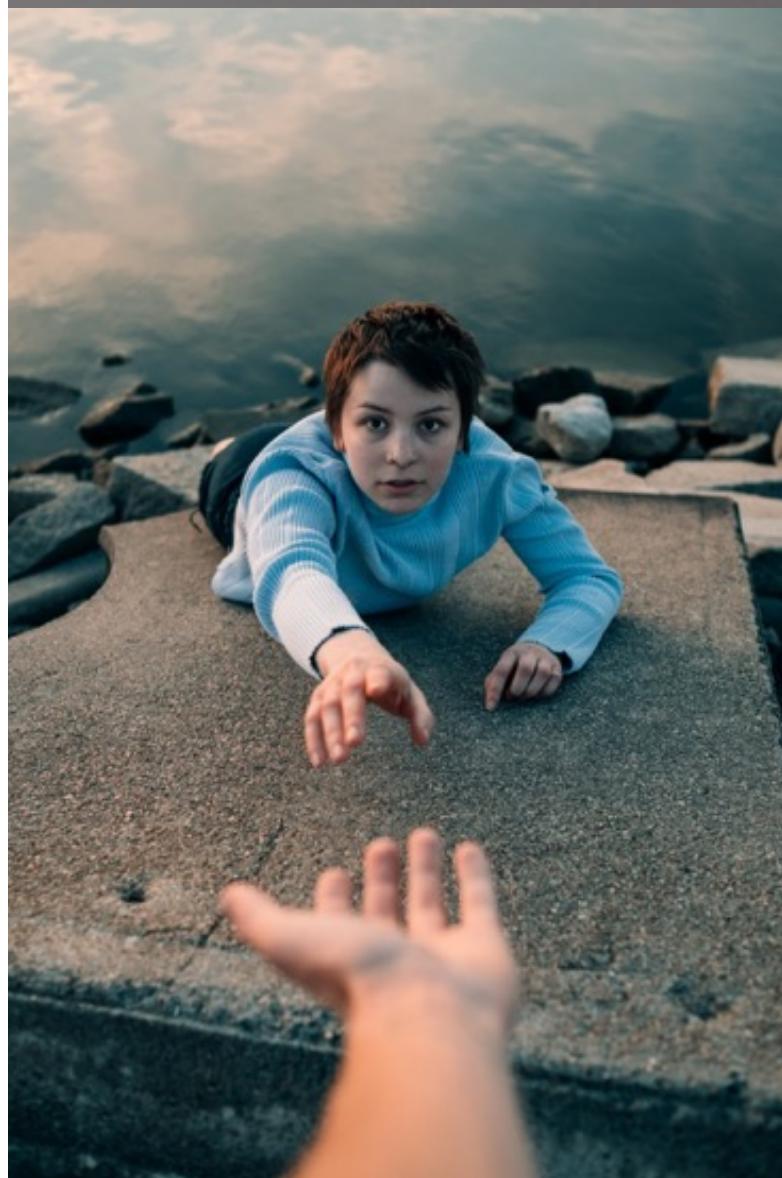
- Symptoms
  - Schedule pressure, people working extra hours, acts of heroism, re-work by senior people to fix problems, low-collaboration and lack of teamwork

- What is really going on
  1. How does the organization replace your role when you take a new assignment?
  2. What is the root-cause of people needing their "hands held"?
  3. Do you not have the time, or did you not allocate the time?

- Alternative thoughts:
  1. Taking the time to understand the perspective and struggles of others is an investment that pays for itself.
  2. Acknowledge the time that is required for this and schedule your time accordingly.
  3. Taking the time to coach, mentor, and teach others is a critical variable to career development.
  4. Work on valuing inclusion over exclusion.

- Symptoms:
  - Lack of innovation, defensiveness, frustration, disengagement.
  - "We already tried that" syndrome.

- How are improvements made to your processes and products?
  1. How does innovation happen?
  2. How do you motivated and reward creativity?
  3. Does your organization value and compare options?
  4. How many projects never run into unexpected situations?

- Alternative thoughts:
  1. Embrace challenging the status-quo. A discussion is not a commitment to change.
  2. Embrace making improvements. There are always alternatives, options, and improvements.
  3. Value different perspectives and take the time to collect them. There is no obligation to do them all.
  4. Find alternatives to saying no to accommodate exploration and innovation.
  5. Strive for excellence over perfection, or "the one way"
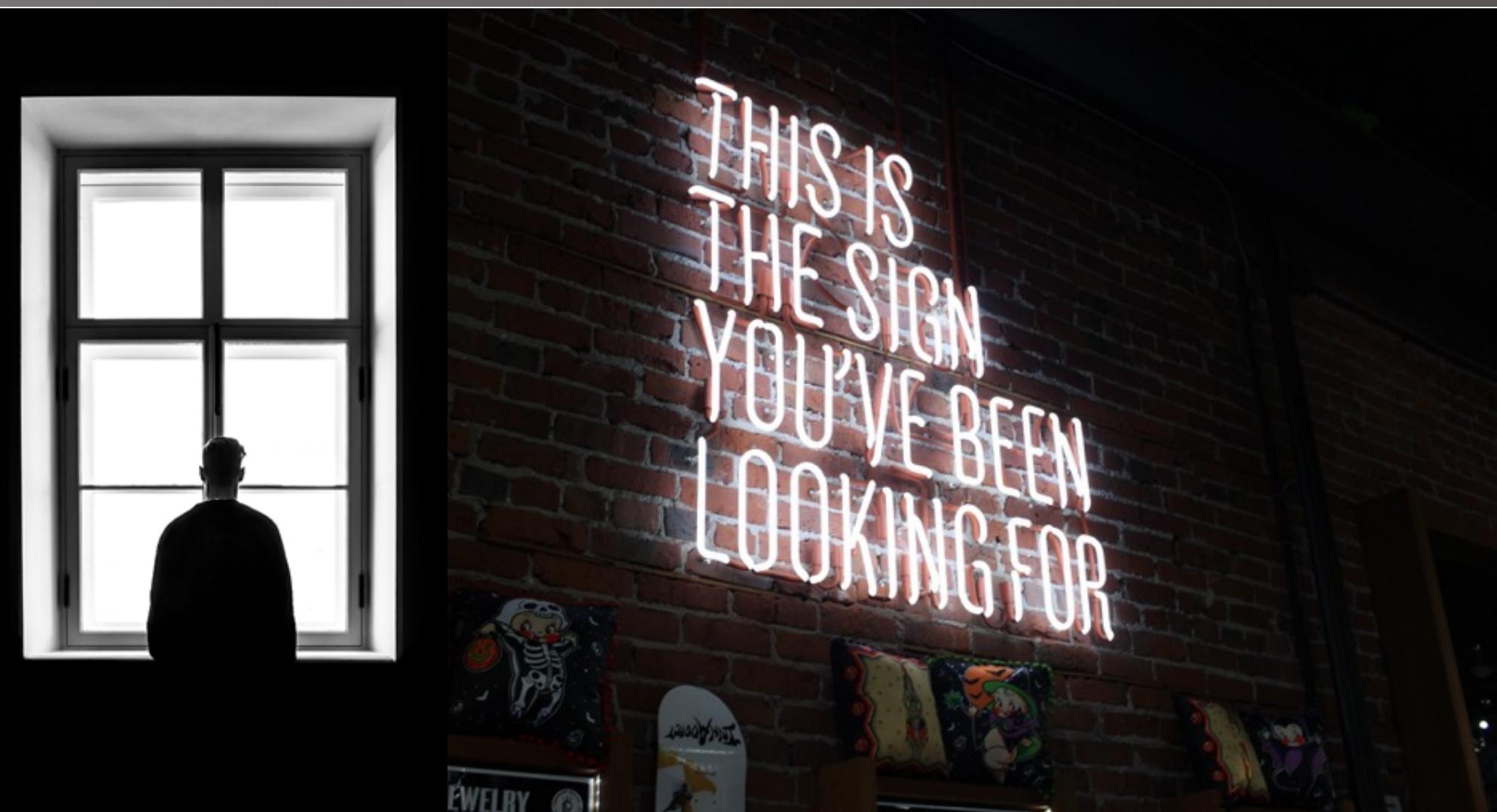
- Symptoms:
  - Lack of trust, disrespect, misunderstandings, negative politics, power-struggles, skunk-works efforts

- How well do you understand trust:
  1. How do approach building trust?
  2. How often do you expect to be trusted without building it first?
  3. Who trusts you, and why?
  4. Who do you trust and why?
  5. Who doesn't trust you and why?
  6. Who don't you trust and why?
  7. Have you ever had a 360 review to get feedback on trust?

- Alternative thoughts:
  1. Take an initiative to build trust with someone that currently does not trust you.
  2. Try this with a superior, a peer, and a subordinate to help learn about managing "up, out, an down".
  3. Learn to build relationships based on trust over relationships based on accomplishments

#5 "I'll show them…"

- Symptoms:
  - Lack of respect, defensiveness, low collaboration and teamwork, lack of engagement

- What is it like to have a team-member:
  1. With an personal "axe to grind" on a project?
  2. That has a complaint that they won't let go of?
  3. Values the results and outcomes more than the people?

- Alternative thoughts:
  1. Learn to value relationships and people over outcomes.
  2. Work toward building a culture/team that is effective at learning and adjusting.
  3. Value organizational success over personal success.

- Symptoms:
  - Lots of complaining with few constructive solutions, negativity, low collaboration and low teamwork, "meetings after the meeting"

- What happens on project teams where
  1. A team member complains all the time?
  2. A team member is stubborn and won't listen?
  3. A team member dominates the discussions and tries to control everything?
  4. A team member only offers negative criticism?
  5. A team member considers themselves smarter than everyone else?
  6. A team member doesn't speak up in meetings, and proceeds to complain about the decision, or worse, decides to not follow the direction decided by the team?

- Alternative thoughts:
  1. Start a professional and/or personal development program.
  2. Participate in a 360 review of your performance.
  3. It may be true that no one understands - bringing people along is part of leadership and team success.
  4. Learn to see other points of view as your valuable options

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- Symptoms
  - Problems are always some one else's fault, blaming, defensiveness, and a lack of responsibility & accountability

- People have made millions from the books written about the negative impact of blaming and shaming:
  1. What is the effect on working relationships?
  2. What is the effect on teams?
  3. What is the effect on individuals?

- Alternative thoughts:
  1. Responsibility is always taken, never given.
  2. When challenges happen, work on finding a solution.
  3. Work on solving problems over placing blame.
  4. Learn to take risks over avoiding failure.
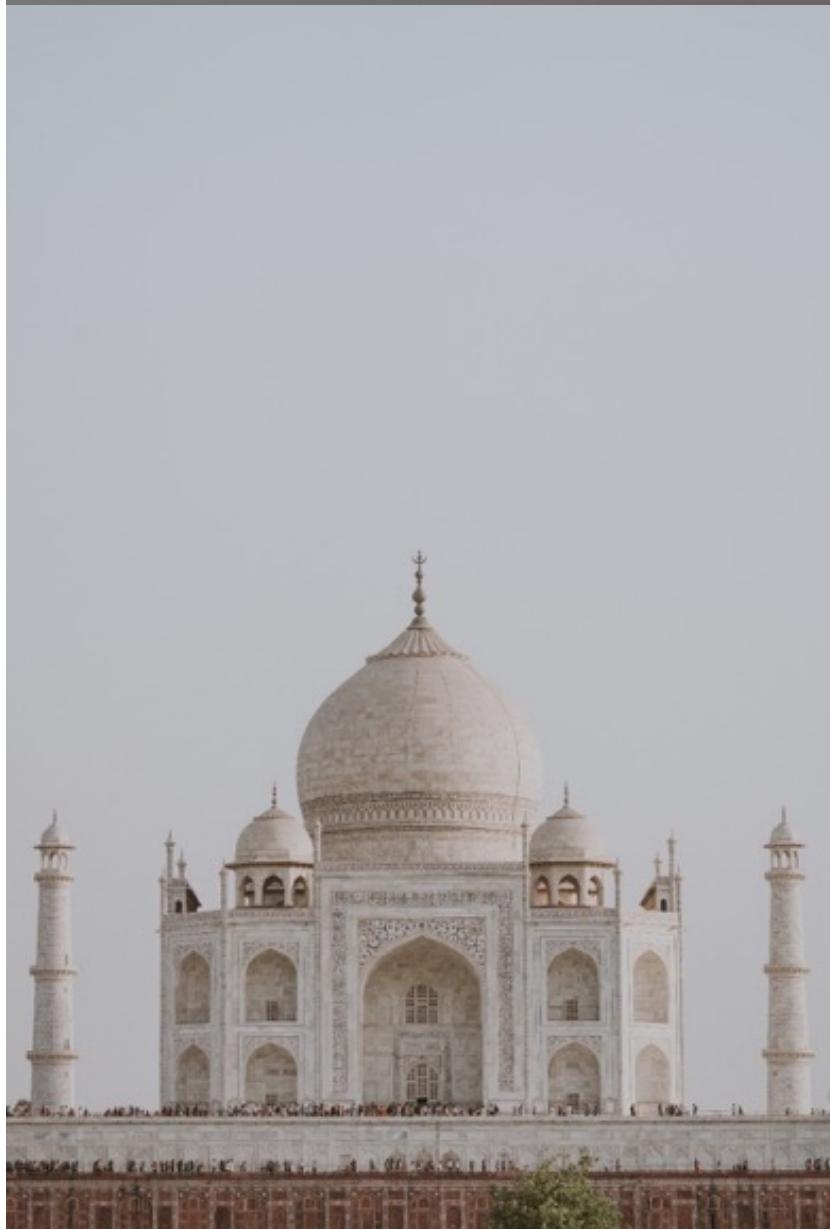
#2 "Surprise!!! Here's something that you don't know…"

#2 "Surprise!!! Here's something that you don't know…"

- Symptoms
  - Lack of trust, lack of respect, lack of inclusion, low collaboration

- Who likes to be surprised in a meeting
  1. Does it make people look good or bad?
  2. How many discussions are derailed when this happens?
  3. How many positive outcomes have come from this technique?
  4. Surprises typically result in more work for other people.

- Alternative thoughts:
  1. Take the time to prepare people affected by your message one-on-one.
  2. Manage your messages in meetings by keeping to a published agenda.
  3. Keep people informed instead of surprising people.

#1 "But, that's already done…"

- Symptoms
  - Low quality, premature shipping of product, lack of respect between departments, poor communication, frustration, acts of heroism, power-struggles, failed schedules and budgets, and surprises

- What is the definition of "done"
  1. Does the architecture support it?
  2. Is there code somewhere that can be copied?
  3. Did a developer work on something in the past?
  4. Is there something is working at a developer's desk?
  5. Do we have the funding?
  6. Is there a diagram and documentation somewhere?

- Alternative thoughts:
  1. Done should mean "ready to ship".
  2. If you find yourself saying this in meetings, STOP IMMEDIATELY. Don't say anything and consider your motivations for wanting to make this statement.
  3. Work on developing values over enforcing rules.

See your success as a team sport

TRANE BUILDING
ADVANTAGE

To help with career development for an engineer:

- #10 Value collaboration over competition
- #9 Value relationships over results
- #8 Value inclusion over exclusion
- #7 Value pursuit of excellence over perfectionism
- #6 Value relationships based on trust over relationships based on accomplishments
- #5 Value organizational success over personal success
- #4 See other points of view as your valuable options
- #3 Learn to take risks over avoiding failure
- #2 Value keeping people informed over surprising people
- #1 Learn to develop values over enforcing rules

Discussion

- Thoughts, questions, and suggestions…

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