



# Culture

Tom, Tommy, or Thomas Harman



HAVE AN IDEA, THOUGHT, COMMENT???

I need to hear it!!!!



tom.harman@dot.gov



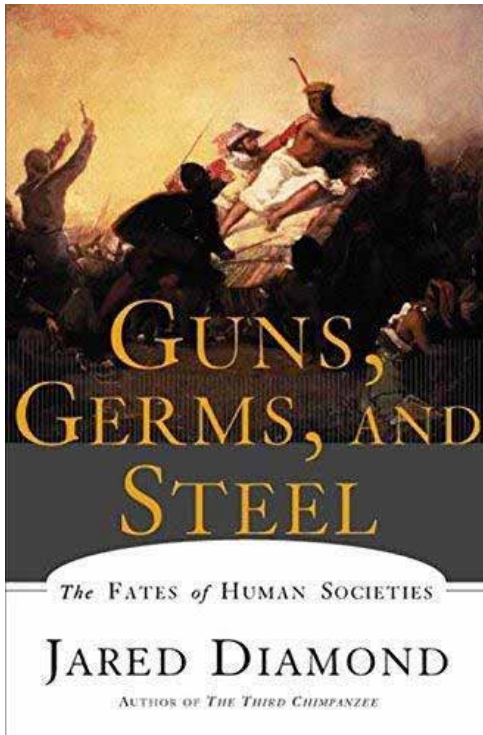
innovation@dot.gov



U.S. Department of Transportation  
**Federal Highway Administration**



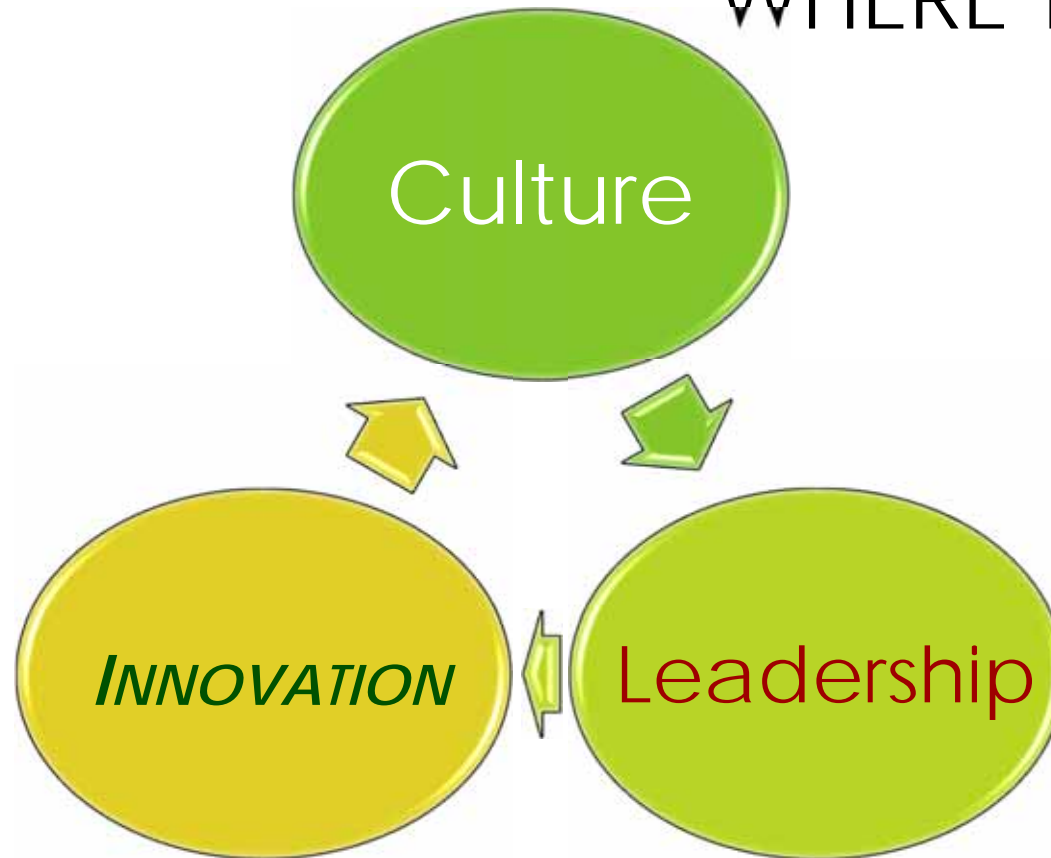
# JARED DIAMOND



- “Naturally, I don’t subscribe to the obvious fallacy that every society promptly adopts every innovation that would be useful for it. The fact is that, over entire continents and other large areas containing hundreds of competing societies, some societies will be more open to innovation, and some will be more resistant.”

-Excerpt GG&S Chapter 15

# WHERE TO START?





# Leadership

# My Least Favorite Quote...

Anyone can make a  
difference, most don't.



# Leadership is....

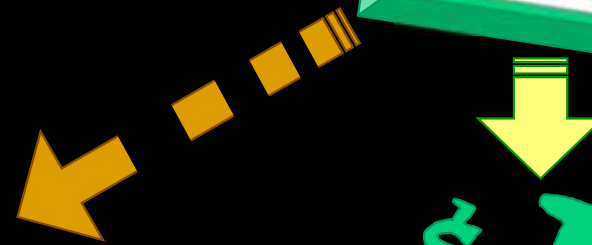
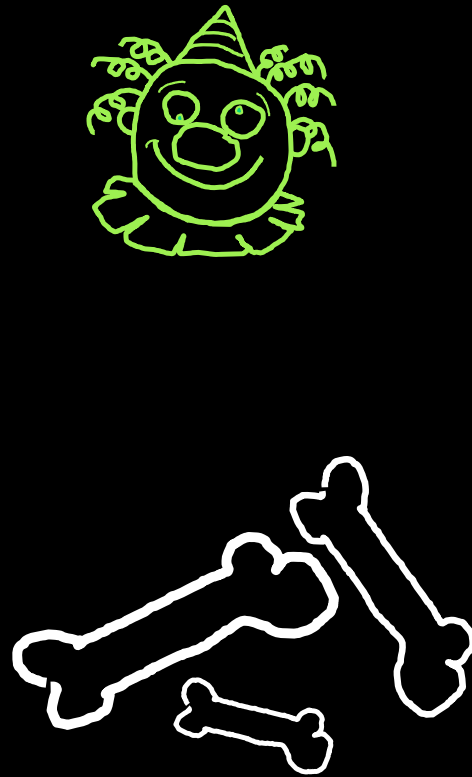


## What makes a GREAT Leader???



# Situational Awareness

Unique

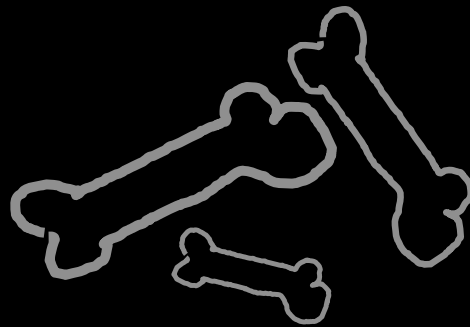
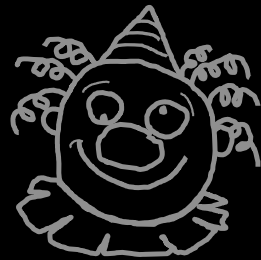


Value



# Situational Awareness

Unique



Value



Resist **CHANGE**  
and **DIE.**

Accept **CHANGE**  
and Survive...

Lead **CHANGE**  
and Thrive!

# Jan's Strategic Process...



# Tactical v. Strategic

## The Now - Tactical

- Response to Real World Condition
- Project Management
- Day-to-Day
- Schedules
- Tracking
- Workforce: one-on-ones, coaching, feedback...

*leadership development=>*

## The Then - Strategic

- Plan for Future Predictions
- Shared Vision / Builds Culture
- Meaningful Mission
- Clear Goals (S.M.A.R.T.)
- Real Strategies
- Effective Tools & Tactics
  - Assessing Risk – Heatmapping...
  - Workforce Growth & Development

# FROM YOUR PERSPECTIVE

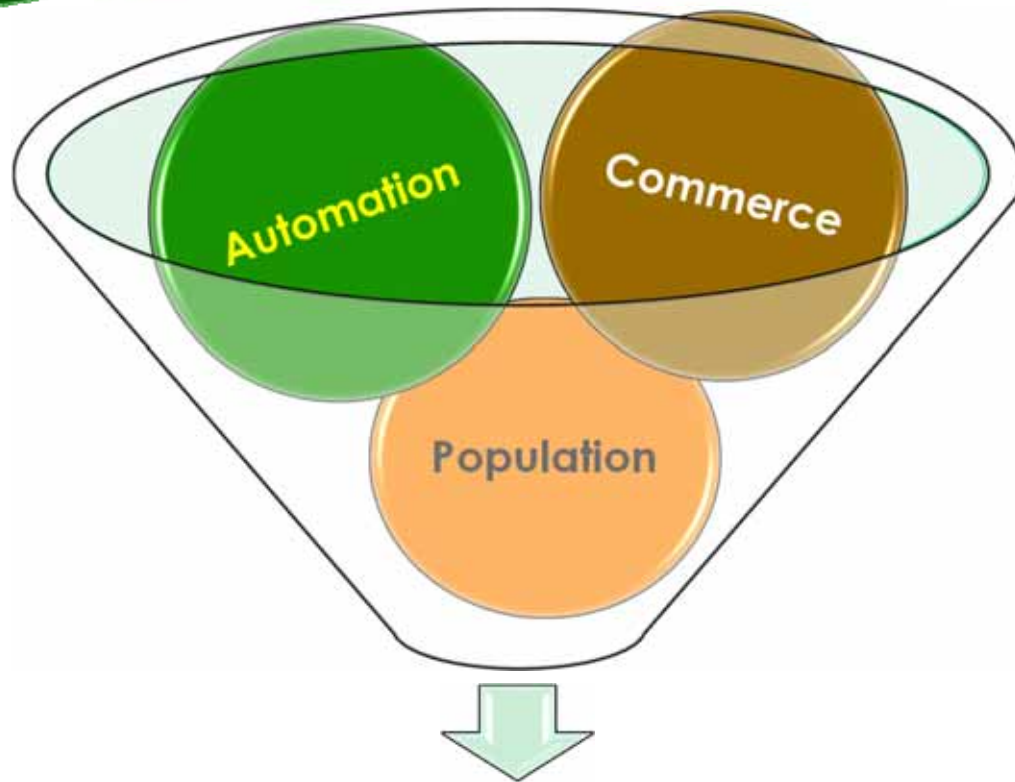


What if ... (something happening in transportation)

What if... (something happening in government)

What if ... (something happening in workforce)

CHANGE IS ~~COMING~~ HERE...



**Our Future**

The background features a central black area where the text is located. This central area is framed by vibrant, wavy bands of color. The top band transitions from bright green on the left to yellow and orange on the right. The bottom band is primarily yellow and orange, with a brushstroke-like texture on the right side. In the bottom-left corner, there are realistic-looking green leaves.

Innovator





# A STORY...

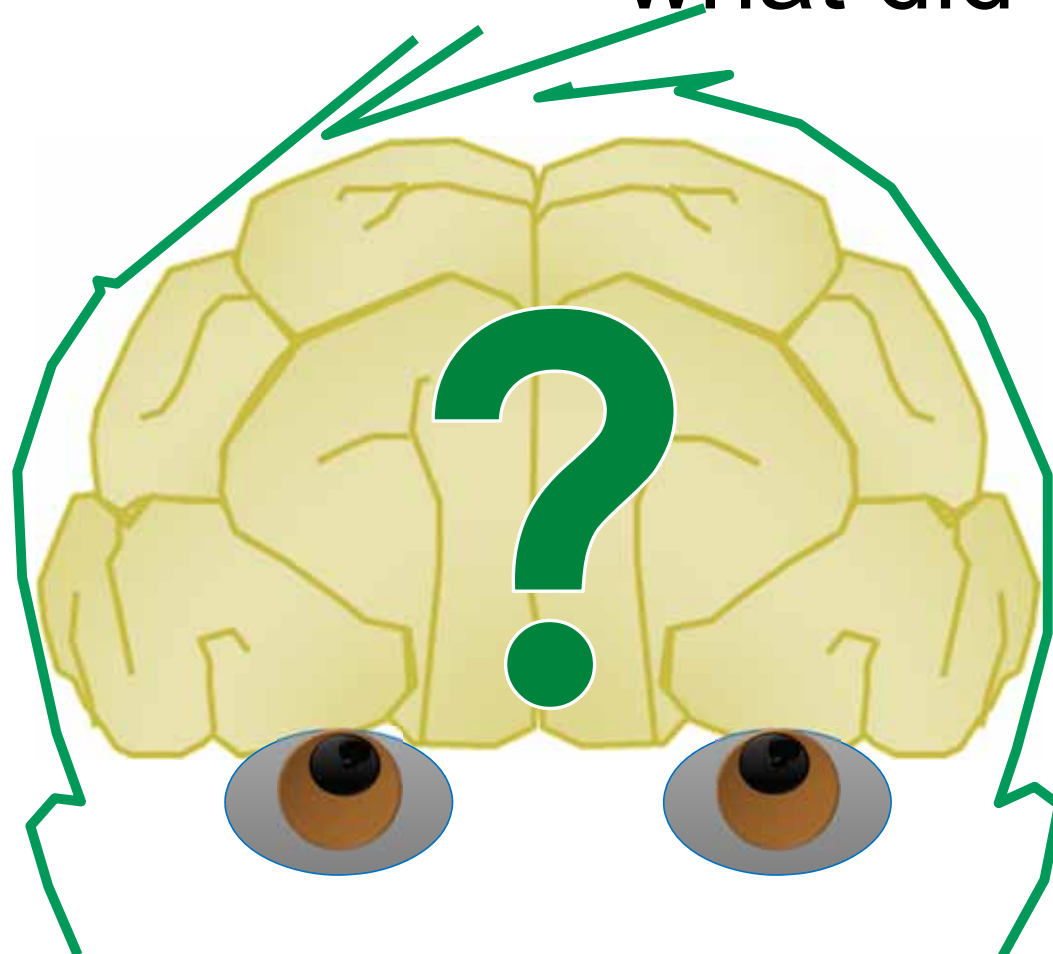
In my early 30's...

...every Saturday in the fall...

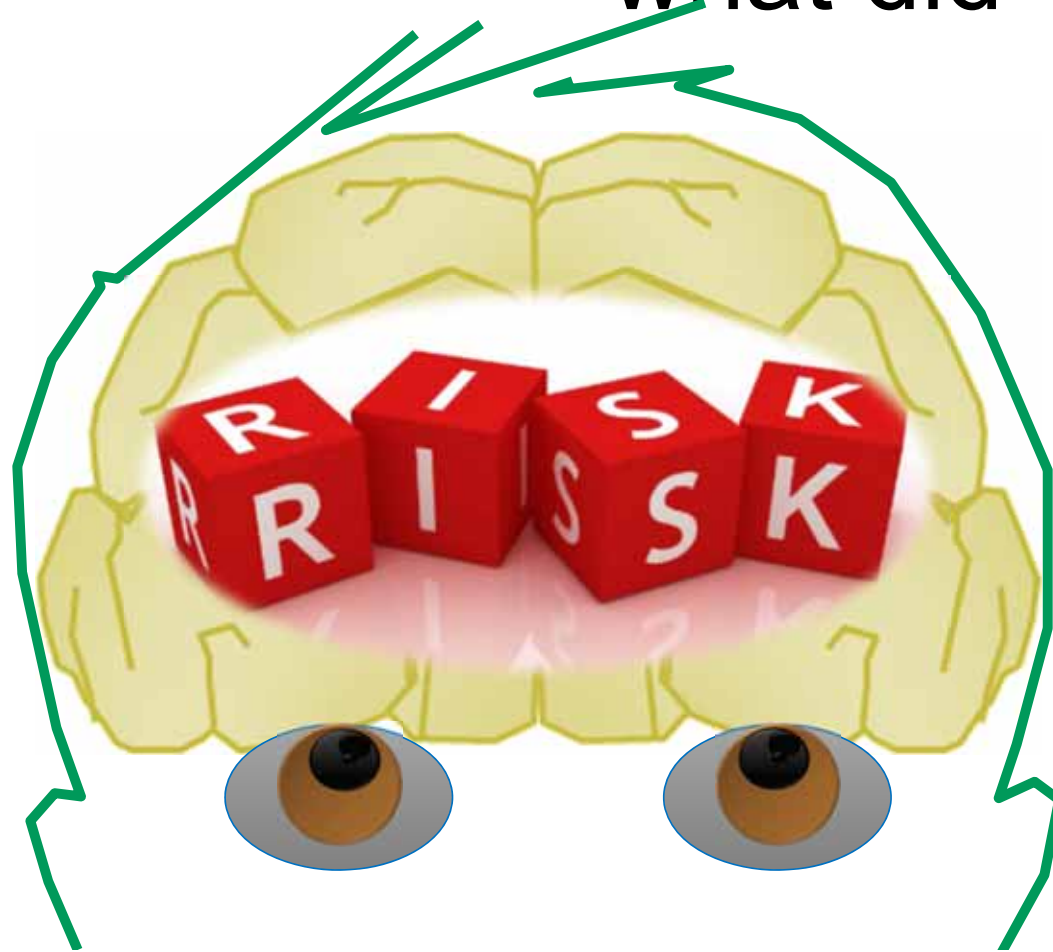
...I played football with friends...



what did **TOM** do?



what did **TOM** do?





# Innovator

1. RISK Taker





# Defining Innovation

- “Defining Innovation”* sounds like a simple task.  
According to an online dictionary... INNOVATION is
- the introduction of something new
  - a new idea, method or device
  - \* repurposing an existing idea, method or device  
(e.g. from outside transportation)

Merriam-Webster Online Dictionary,  
<https://www.merriam-webster.com/dictionary/innovation>





- **Disruptive**
- **Emerging**
- Noteworthy**
- **Incremental**

## Impact of Innovation

- ✓ *Game Changing*
- ✓ *Gap Filling, significantly advance the state-of-the-art*
- ✓ *Significantly advance conventional practice*
- ✓ *Advance the state-of-the-practice*

**TRANSFORMATIVE**



# WARNING

## The 48 Laws of POWER – Robert Greene

- **LAW 45** – Preach the need for change, but never reform too much at once.
- **Judgment:** Everyone understands the need for change in the abstract, but on the day-to-day level people are creatures of habit. Too much innovation is traumatic, and will lead to revolt.
- Change is often necessary... make it feel like a gentle improvement on the past.



## OLDER ADVICE

*Whenever his enemies have the ability to attack the innovator, they do so with the passion of partisans, while the others defend him sluggishly, so that the innovator and his party alike are vulnerable.*

Niccolò Machiavelli, *The Prince* (1513)



# Variables Determining Rate of Adoption of Innovations

## Relative Advantage

- The degree to which the innovation is perceived as being better than its predecessors

## Compatibility

- The degree to which the innovation is perceived as consistent with existing values, past experiences, and needs

## Complexity

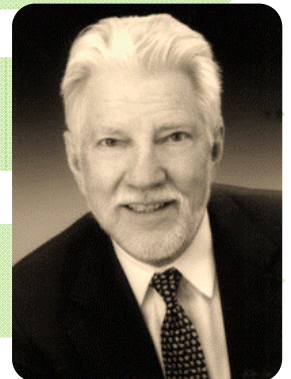
- The degree to which the innovation is perceived as difficult to understand and use

## Trialability

- The degree to which the innovation may be tried on a limited basis

## Observability

- The degree to which the results of an innovation are visible to others

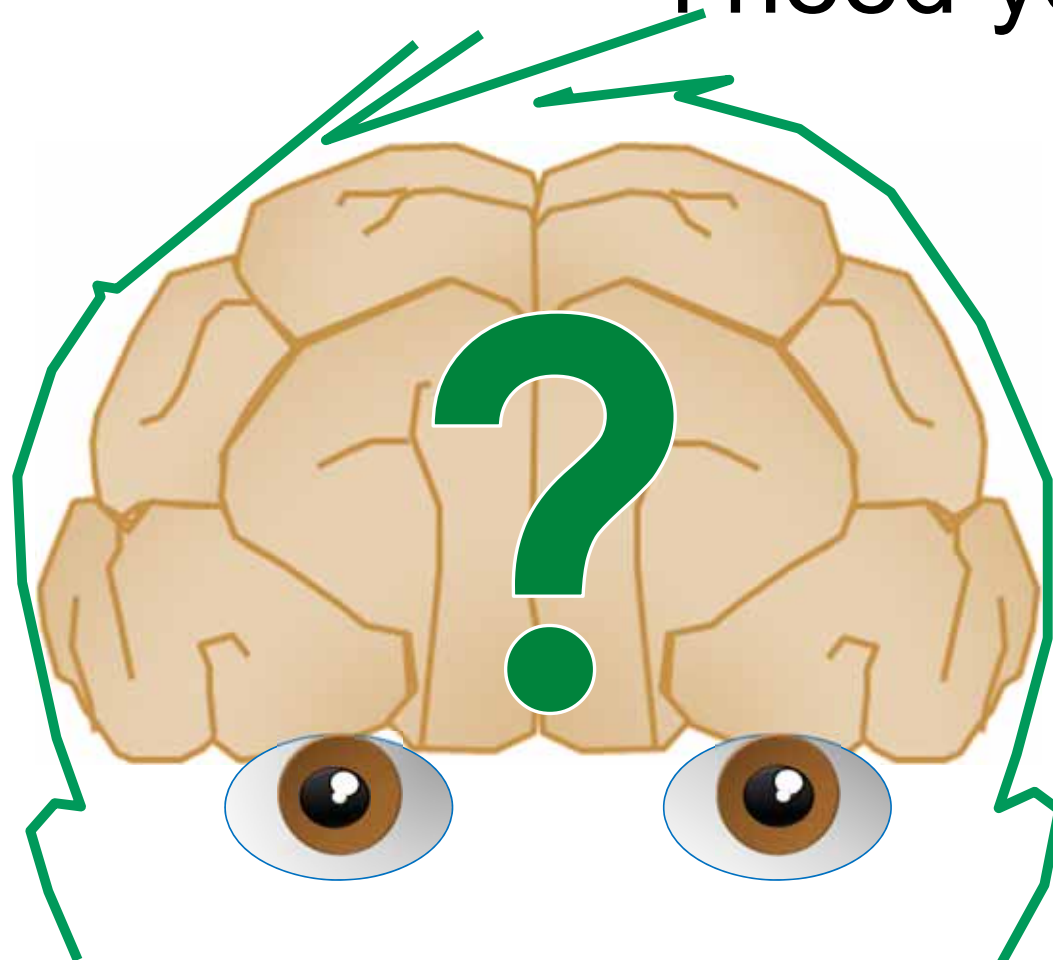


Everett Rogers  
(1931-2004)

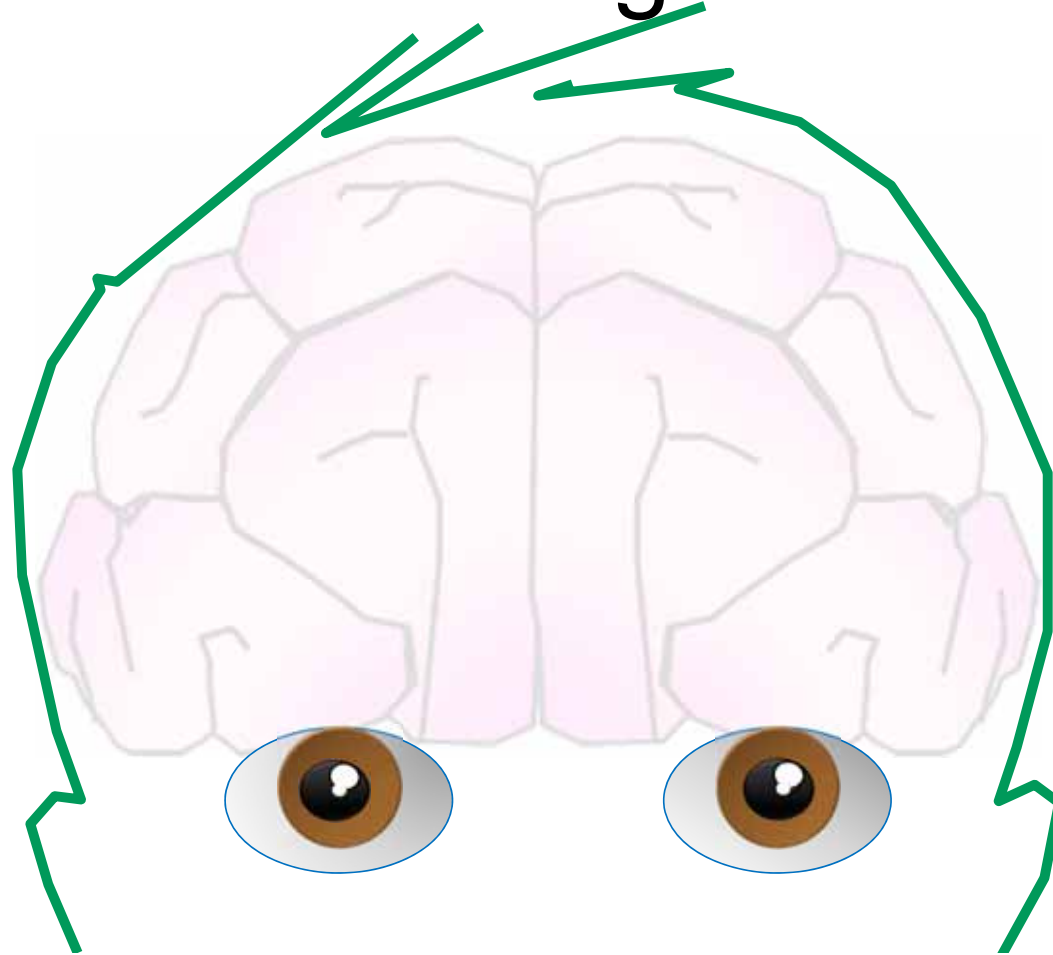
Adapted from Rogers Diffusion of Innovations Model [Rogers Everett, M. "Diffusion of innovations." *New York* (1995)]

Photo source: <https://www.toolshero.com/toolsheroes/everett-rogers/>

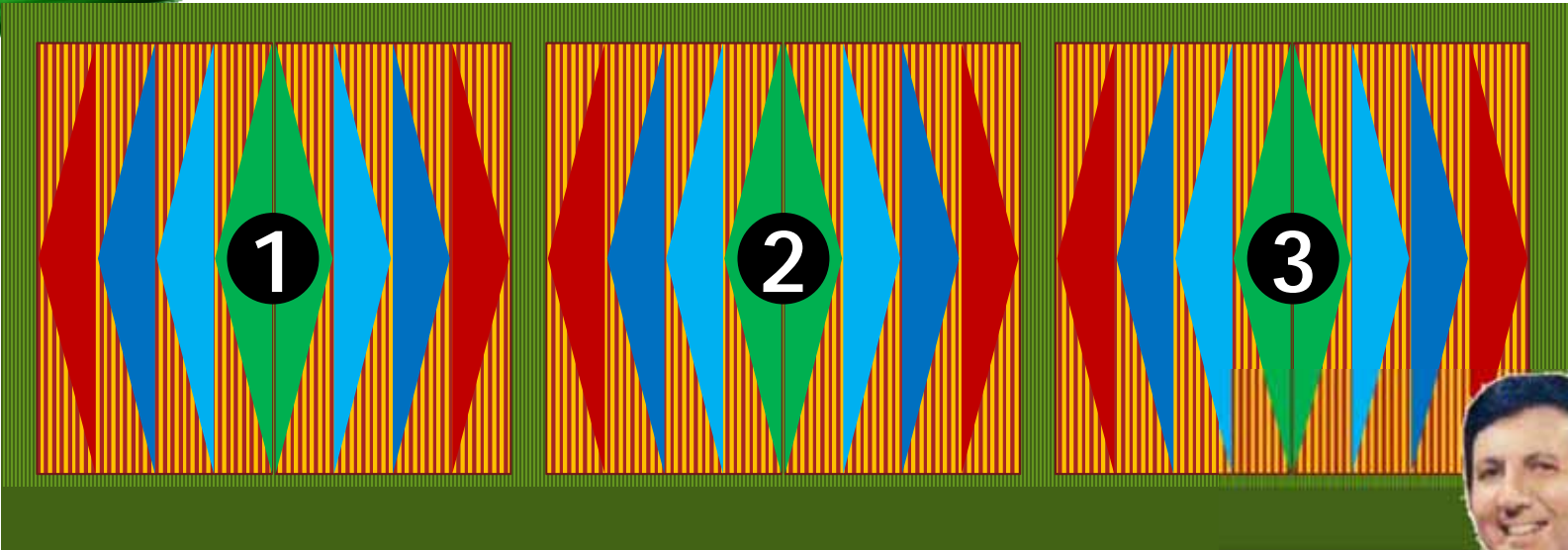
i need your help?



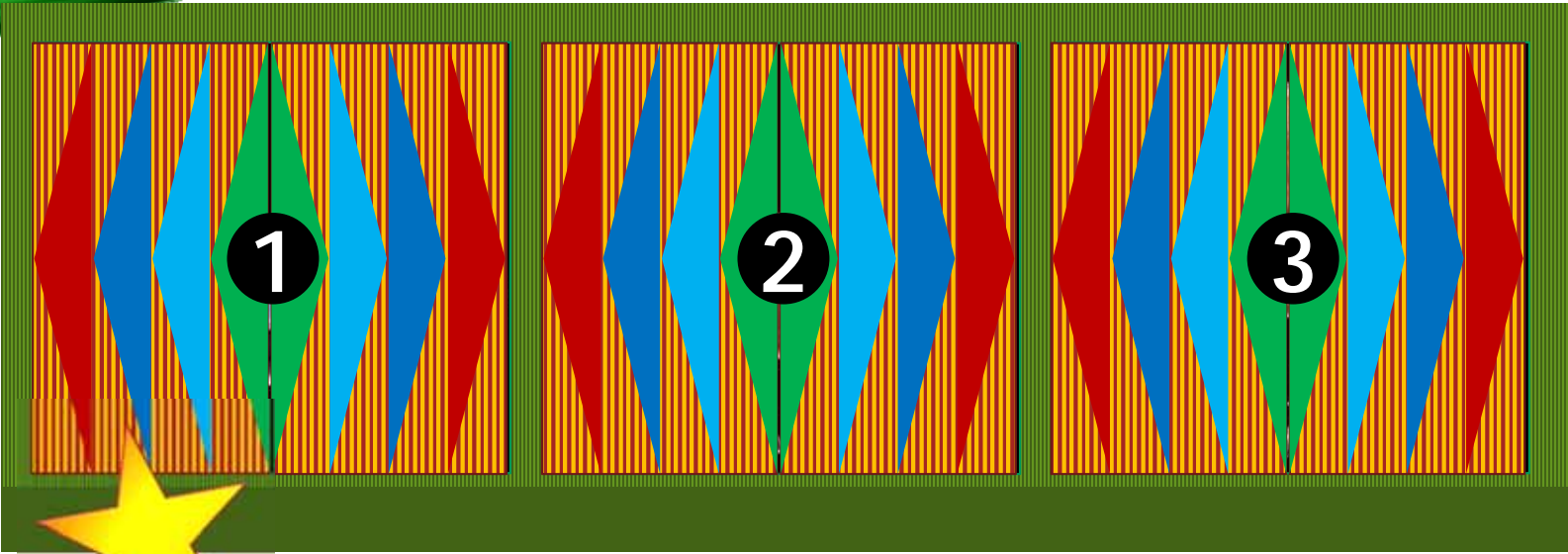
i'm looking for a volunteer...







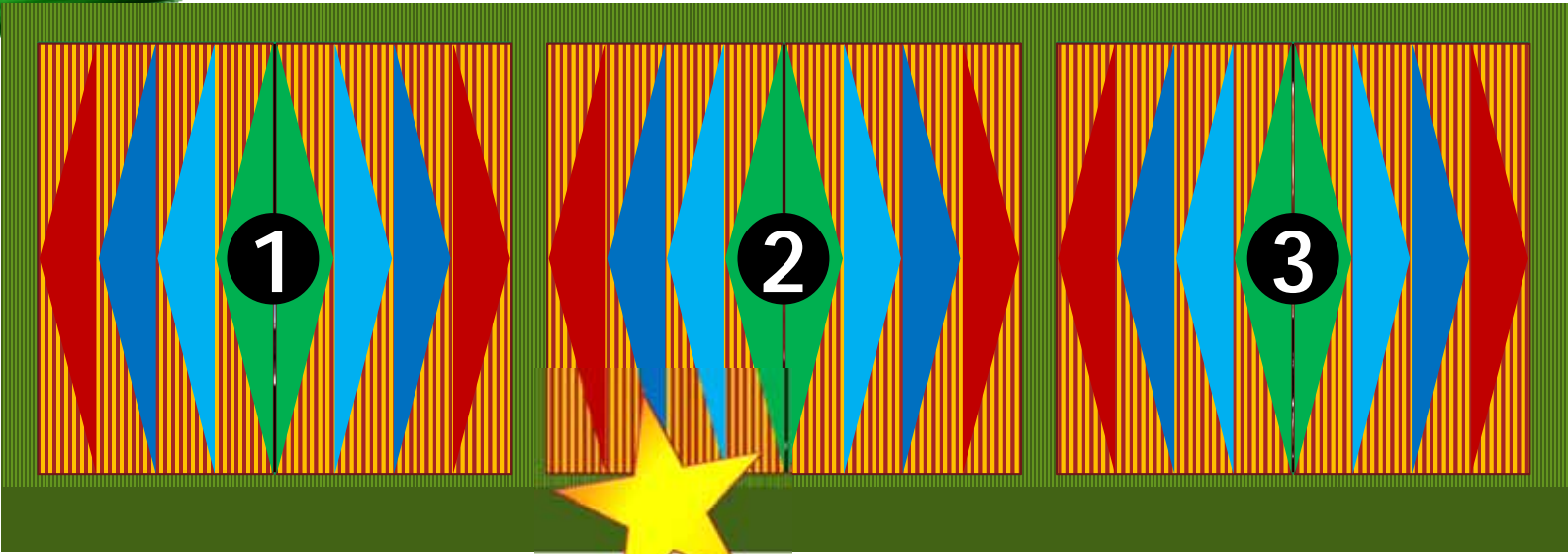
Source: <http://www.comicbookreligion.com>



Do you want to stay with your first choice or switch?

- 1
- 2
- 3

Final Q.

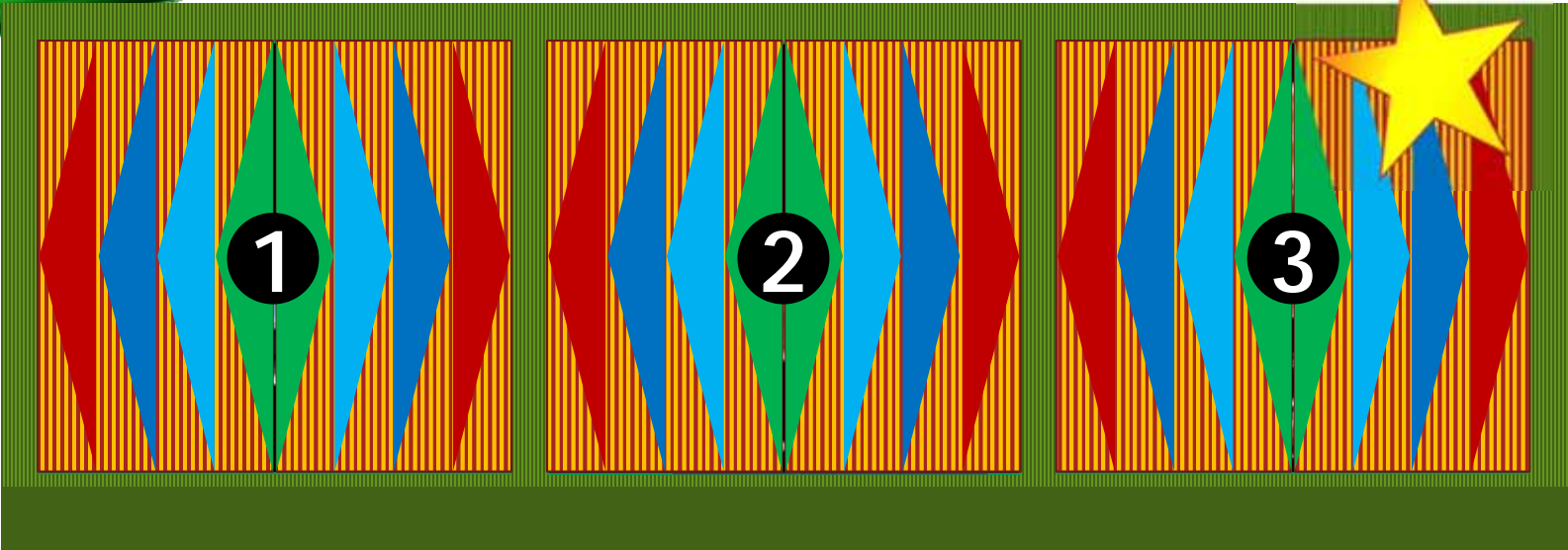


Do you want to stay with your first choice or switch?

1 2 3

Final Q.





Do you want to stay with your first choice or switch?





Should you have switched?



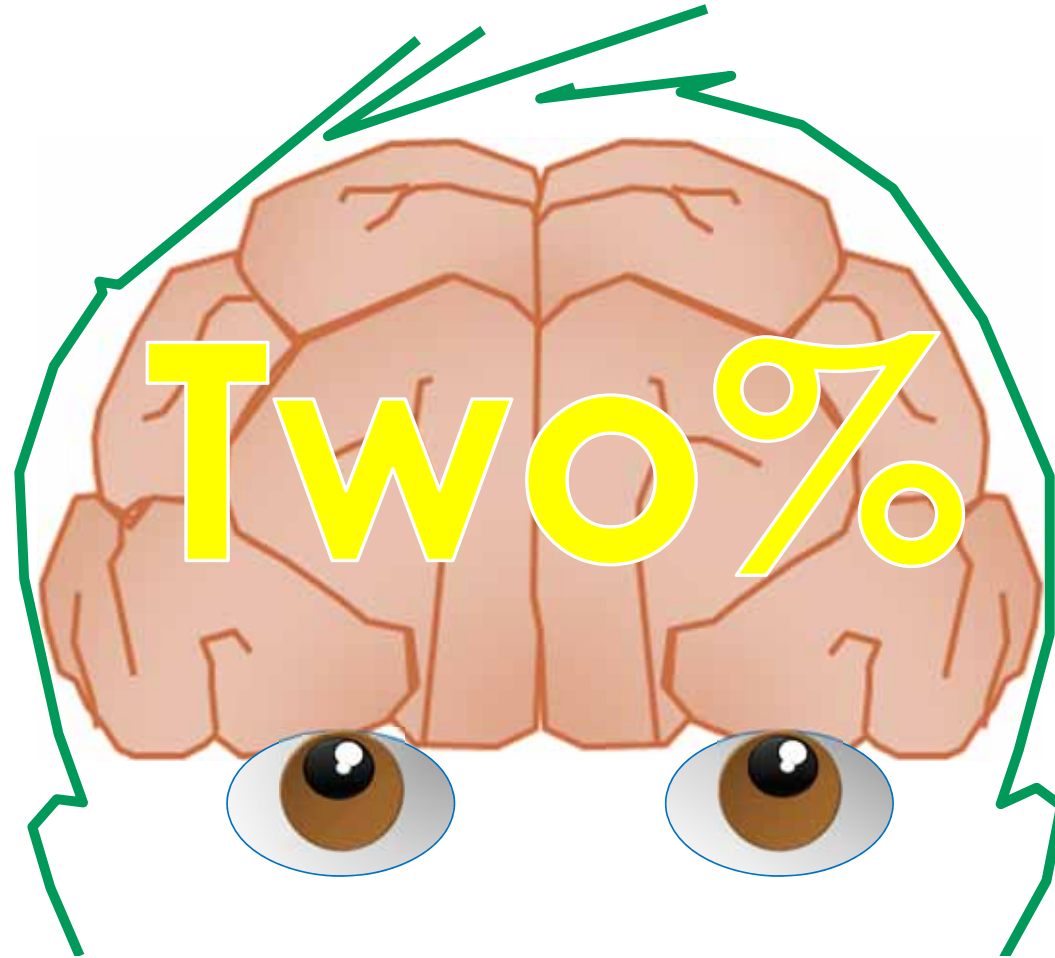
# Innovator

1. RISK Taker

2. RELATIONSHIP Builder (aka HIGH E.I.)



# TOM's Two% Challenge...



# *What is the* Two% Challenge

- Two% of **24Hours** is **28.8minutes** ~ ½ hour
- And a ½ hour “can” change everything
- **Deliberate practice**
  - Identify ½ hour on your e-Calendar (*every day or just twice a week*) to...
    - Be creative (draw)
    - Read about something new / a new innovation
    - Watch a TEDTalk on something you don't know
    - Frame a **problem** as a challenge
    - Collaborate with a friend
    - Go for a walk



**Resist CHANGE  
and DIE.**

**Accept CHANGE  
and Survive...**

**Lead CHANGE  
and Thrive!**

# Innovator

1. RISK Taker
2. RELATIONSHIP Builder
3. Engaged in Deliberate Practice Two%
4. Responds, not reacts, to change







## another Story...

In 2001,  
my wife and I were blessed with our second child...

...Corey Thomas was perfect, but...



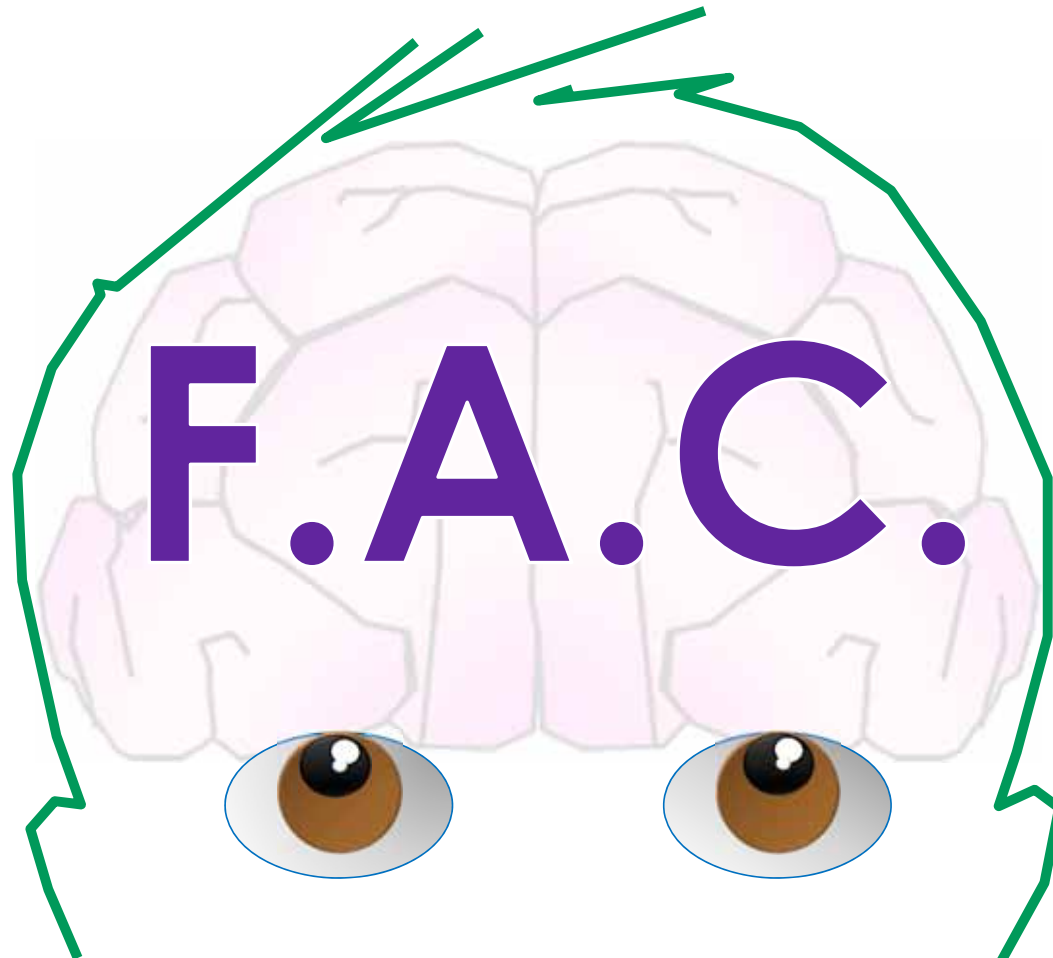
The F.A.C. Human Development  
it happens when...



*Perfect*



TWO% CHALLENGE...



# John F. Kennedy

*"Leadership and learning are indispensable to each other."*



Source: Photo by Verner Reed/The LIFE Images Collection/Getty Images.



## TWO ZONES

Learning  
Skill Acquisition  
Deliberate Practice  
Growth

Performance  
Task-at-Hand  
Execution  
Work





## TWO ZONES... NEW JOB



Learning



Performance





**TWO ZONES... ~AFTER 3 YEARS**



?



Performance

# Innovator

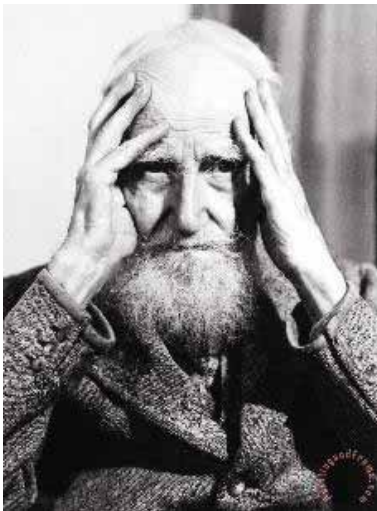
1. RISK Taker
2. RELATIONSHIP Builder
3. Engaged in Deliberate Practice Two%
4. Responds, not reacts, to change
5. Life-long learner (F.A.C.)



# George Bernard Shaw

*Irish Playwright (1856-1950)*

"The reasonable *person* adapts to the conditions that surround *them*... The unreasonable person adapts surrounding conditions to *them self*...



All **progress depends on the unreasonable *person*.**"

Thomas Philip Harman  
*American Inventor (1963-∞Beyond)*

“Innovation is disruptive.



If you want to be an **Innovator**  
you need to be **A little disruptive.**”

# Innovator

1. RISK Taker
2. RELATIONSHIP Builder
3. Engaged in Deliberate Practice Two%
4. Responds, not reacts, to change
5. Life-long learner (F.A.C.)
6. A little disruptive



Attributed to both  
Wayne Gretzky & Michael Jordan

*“You miss **100%** of the shots you don't  
take.”*

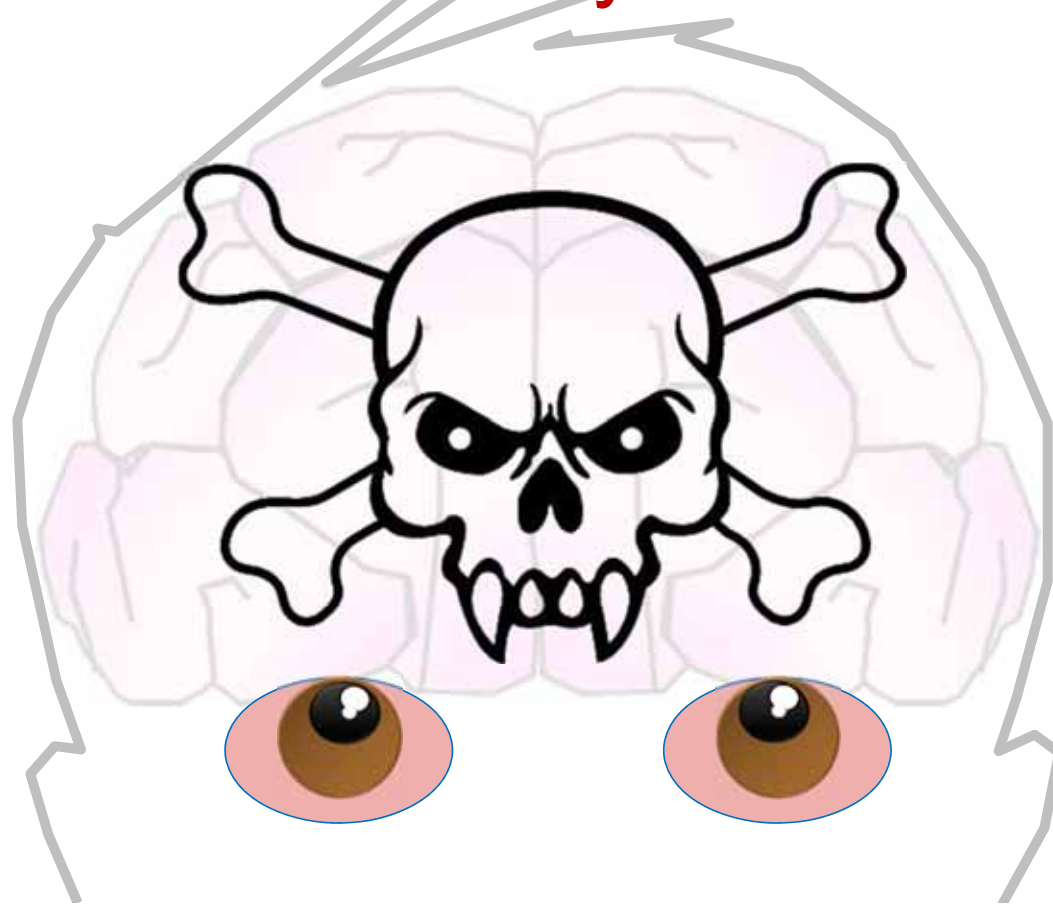


But unlike the ice or the court...  
What's your environment for  
Risk & Failure?

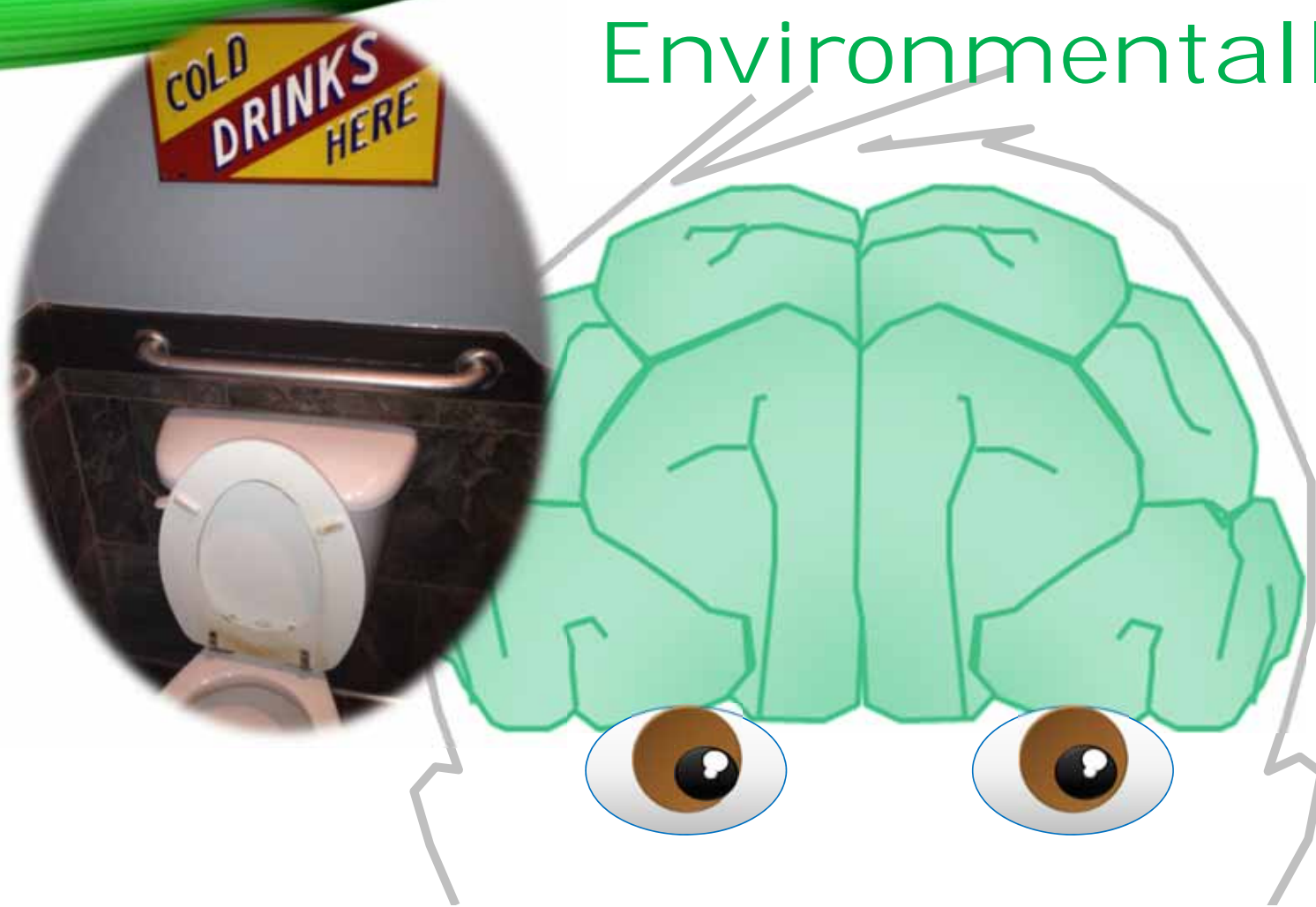




When someone makes a mistake...  
how does your leadership respond?



An **Innovator**  
Environmentally Aware

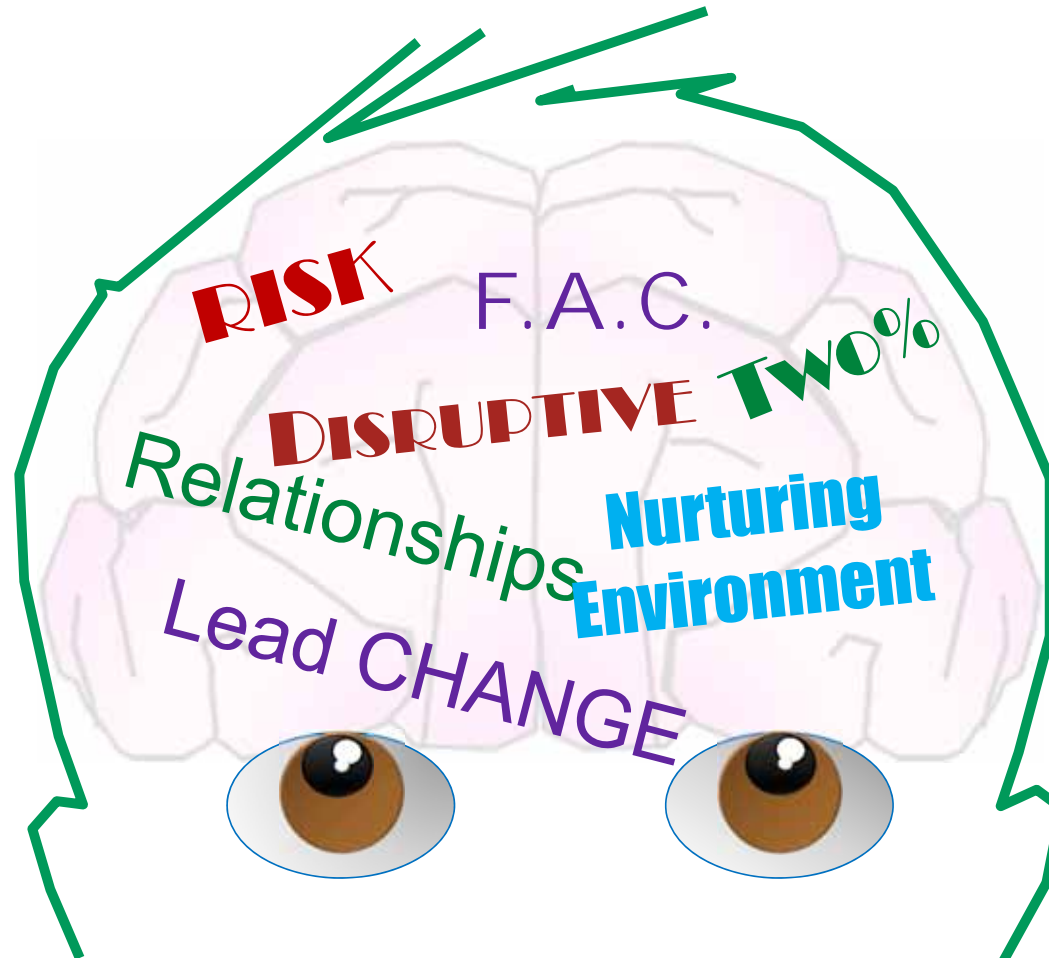


# Innovator

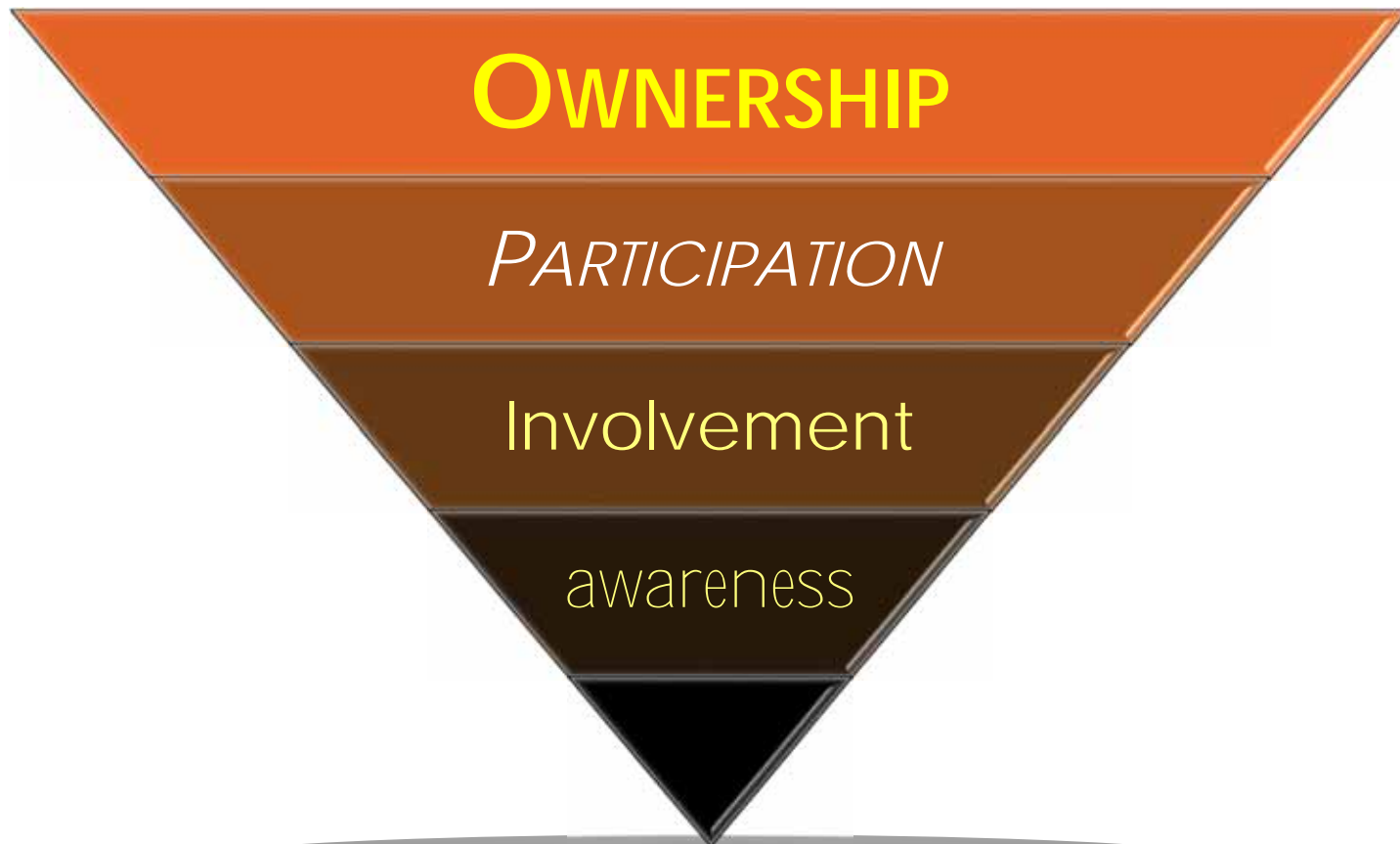
1. RISK Taker
2. RELATIONSHIP Builder
3. Engaged in Deliberate Practice Two%
4. Responds, not reacts, to change
5. Life-long learner (F.A.C.)
6. A little disruptive
7. Fosters a supportive environment



# TOM's Brain...



# Leaders Leverage Their Networks



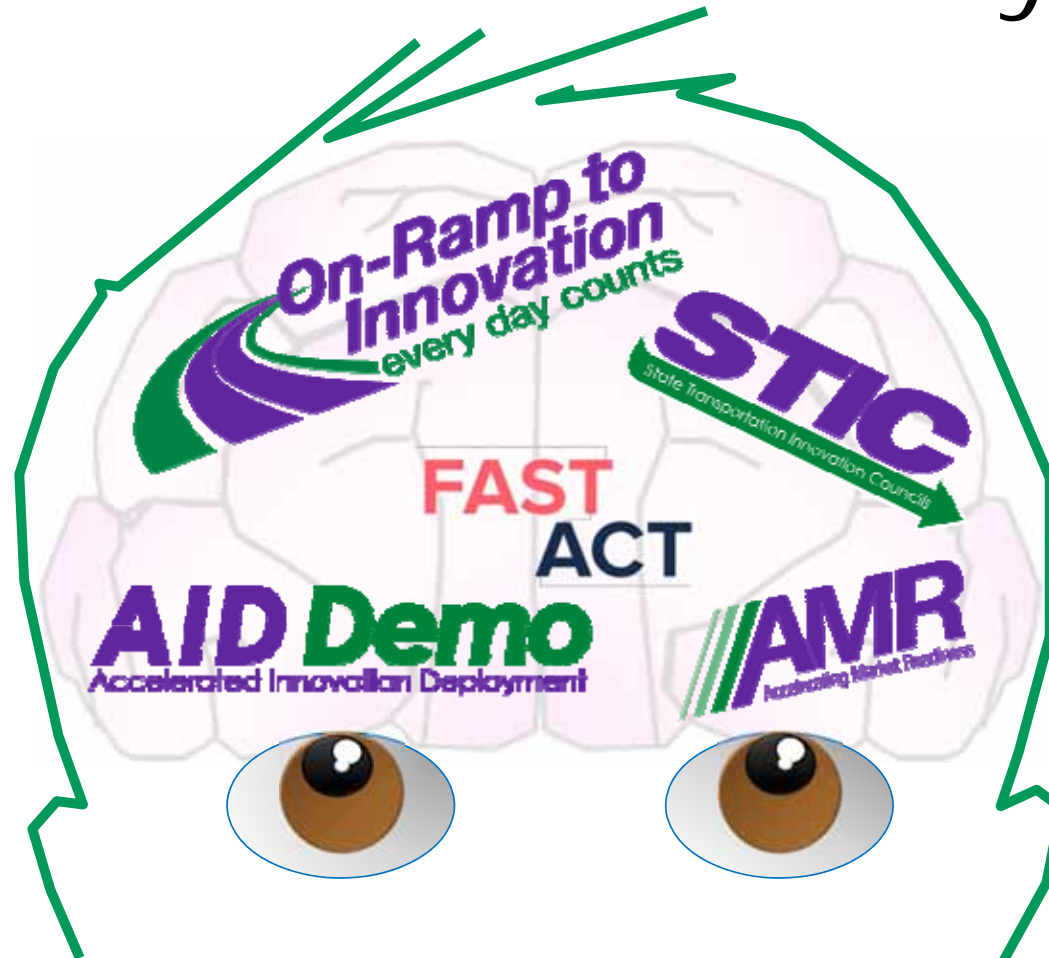
**OWNERSHIP**

*PARTICIPATION*

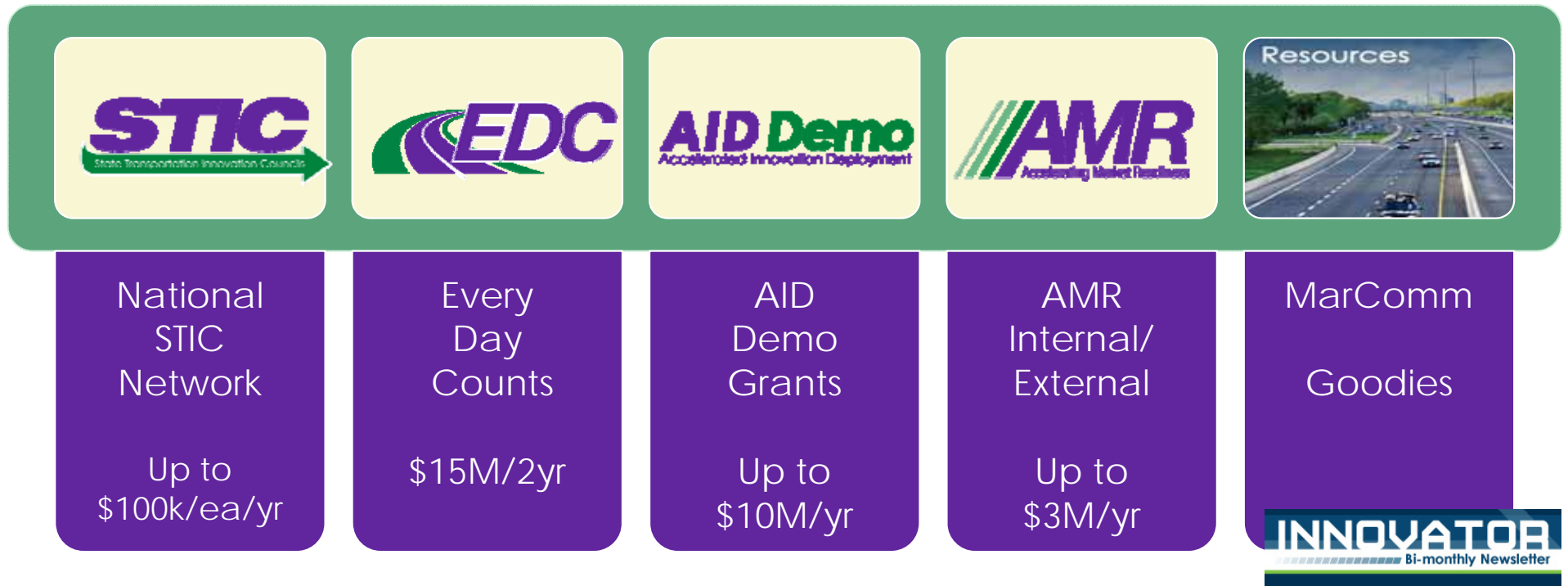
Involvement

awareness

# TOM's Day 'Job' ...



# My Center's Portfolio of Programs







## Safety

Reducing Rural  
Roadway  
Departure

STEP

## Operations

Crowdsourcing  
to Advance  
Operations

Weather-  
Response

## Project Delivery

UAS (Drones)

Project  
Bundling

AGame

CHANGE

## Innovation

Virtual Public  
Involvement

Value Capture

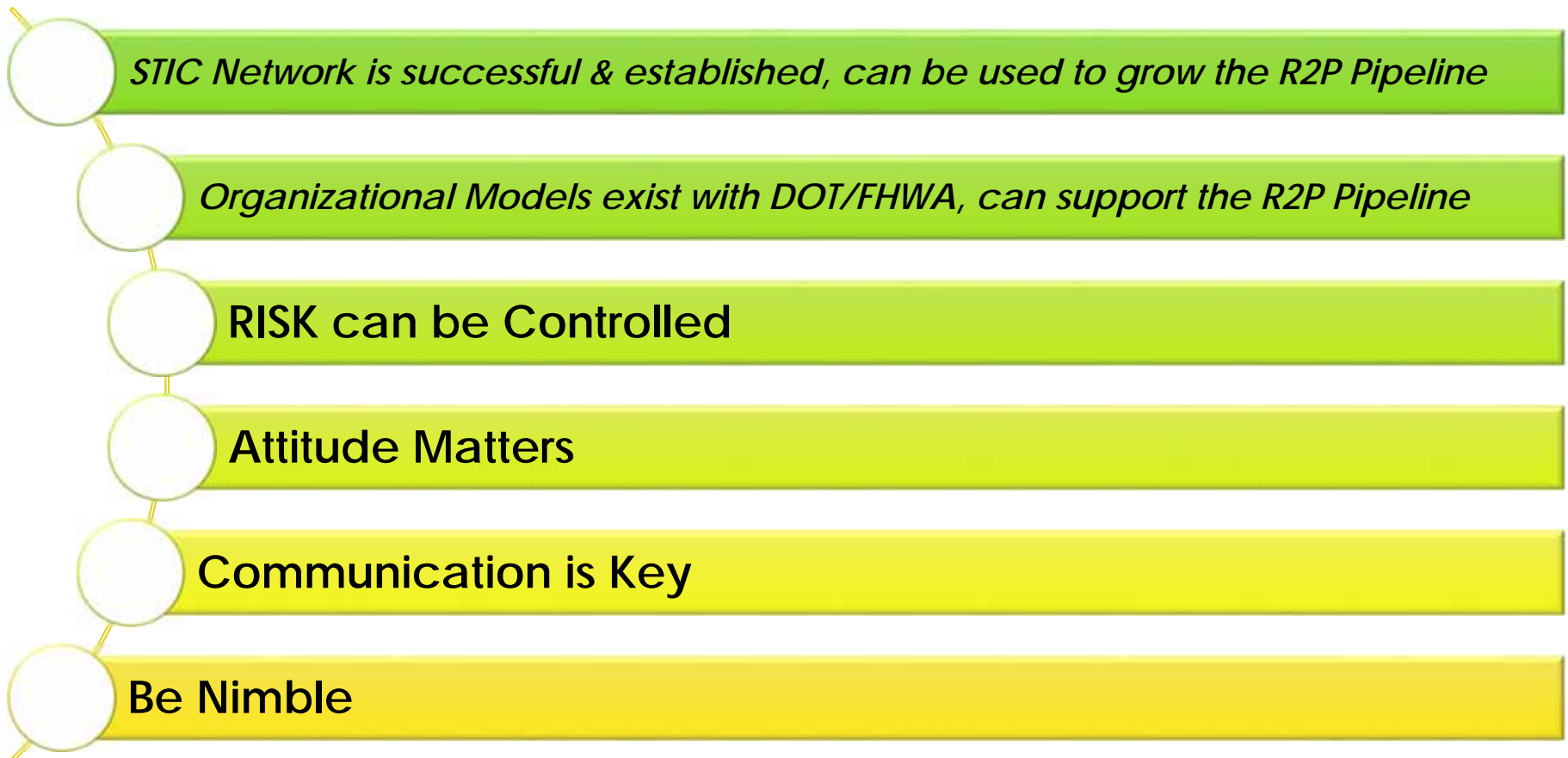



:the set of shared attitudes, values, goals, and practices that characterizes an institution or organization

# The Innovation Culture



# Research to Practice(R2P)



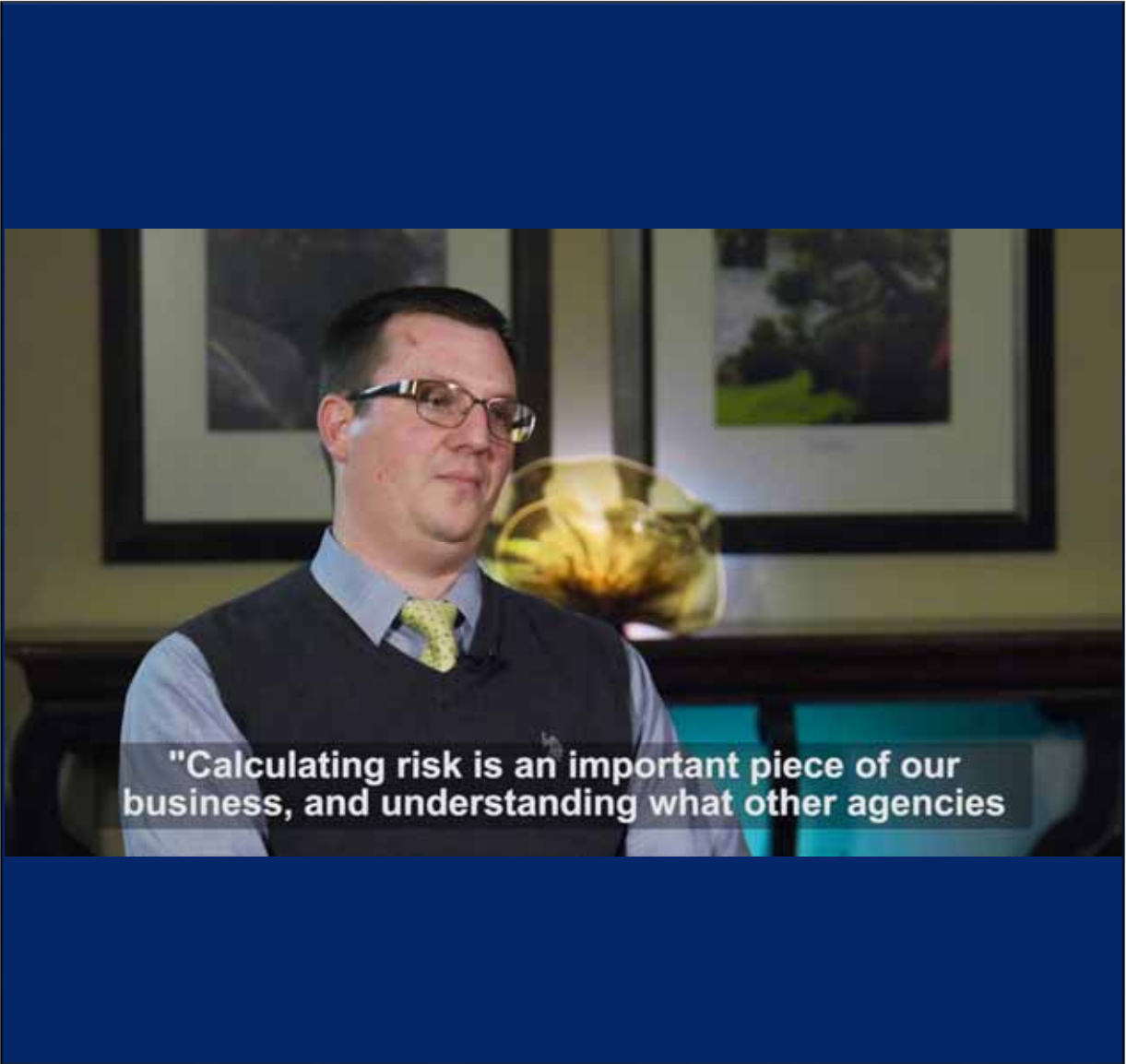
A man with a beard and mustache, wearing a white polo shirt, is speaking. He is positioned in front of a wall with framed artwork and a colorful abstract sculpture. A subtitle is overlaid at the bottom of the video frame.

"What the STIC allowed us to do was to really focus on the implementation side of taking these ideas,

- Work closer with stakeholders outside the State DOT such as academia and industry
- Actively promote periodic meetings with industry
- STIC communication plans goals can help drive expectations
- Create "STIC Network-like" model between small and large municipalities so they can learn and teach each other via a peer exchange atmosphere – promote through conferences (face to face, experiential learning).
- Create regional STIC exchanges.

<< **Marc Williams, Texas DOT**

*RISK CAN BE  
CONTROLLED*



- Use local road network (low AADT) as testing ground for experimental products
- Can NOT risk public safety
- Important to have more R&D when it comes to the public's safety, consider benefits and life cycle.
- Natural fear of deviating from established standards; adopting new things. Keep established standards that have been vetted by professional community.

<< David Esse, Wisconsin DOT





- Important when taking a risk, that the benefits are considered alongside the risk
- Conducting due diligence, investigating, researching, finding the best product at best price, along with national standards is still role of DOT and FHWA

<< Jason Siwula, Kentucky Transportation Cabinet

*ATTITUDE MATTERS*



- Change stigma of failure. Learning requires failure
- FHWA Divisions are key to bridging DOT and HQ in the “supply and demand chain” of need and knowledge.
- Strongest partnership for pushing an innovation into practice is a DOT champ & knowledgeable advocate from FHWA.
- Messaging and support from upper management is imperative to atmosphere
- When people feel empowered by their management, they naturally use ingenuity to make their work place and work better.
- Incentives help generate ideas from staff; management is listening, taking action, expressing gratitude
- When innovation is part of the DOTs mission statement, it can direct behavior

<< Paul Degges, Tennessee DOT

*COMMUNICATION IS  
KEY*

- Having a way to **collect ideas from all levels** within an organization is valuable
- Ideas come from **all sources**
- **Ideas for change range** from big challenges on big projects to small changes within work life environments.
- **Communication is a challenge**, especially messaging to public and getting newsworthy information to local governments.
- Having an **informed public and elected officials** alleviates angst for a DOT to try something new. However, gaining that support is reliant on **accurate information** to the public and elected officials.

*BE NIMBLE*



- Operating in a nimble environment - whether it is quickly addressing funding challenges for research/ innovation on a project or how to expeditiously communicate to the right people up the chain - is necessary.
- Being nimble is not a traditional trait of DOTs, thus is a challenge. Specifications change at a very slow pace
- Offering different types of procurement methods (ex. design/build) helps support a culture of innovation. Procurement methods to quickly contract with universities would be helpful

<< Bobby Lewis, North Carolina DOT



# FROM YOUR PERSPECTIVE

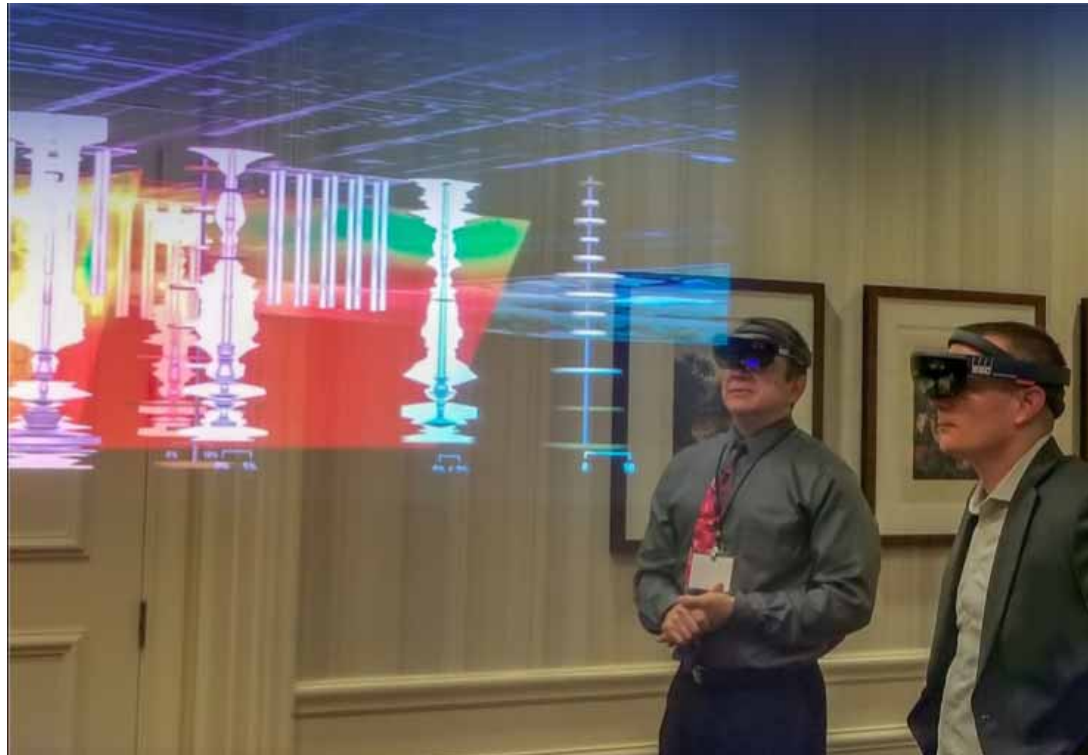


**What if 30% of All US Freight was transported with SAE Level 3 Autonomy Technology by 2030?**

**What if ...**

**What if enrollment and workforce trends creates a shortage in qualified candidates by 2030?**

# INNOVATION



**“Innovation isn’t what Innovators do...  
it’s what Customers and Clients adopt.”**

**HAVE AN IDEA, THOUGHT, COMMENT???**

I need to hear it!!!!



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 [innovation@dot.gov](mailto:innovation@dot.gov)