



MICHIGAN  
ENGINEERING

UNIVERSITY of MICHIGAN

# INTERNATIONAL EXPERIENCES AND ENTREPRENEURSHIP

Thomas H. Zurbuchen

Prof. and Associate Dean for  
Entrepreneurial Programs

College of Engineering, University of Michigan

[thomasz@umich.edu](mailto:thomasz@umich.edu)





2011

USA

First Spacecraft to Orbit Mercury

FOREVER

MESSENGER Mission





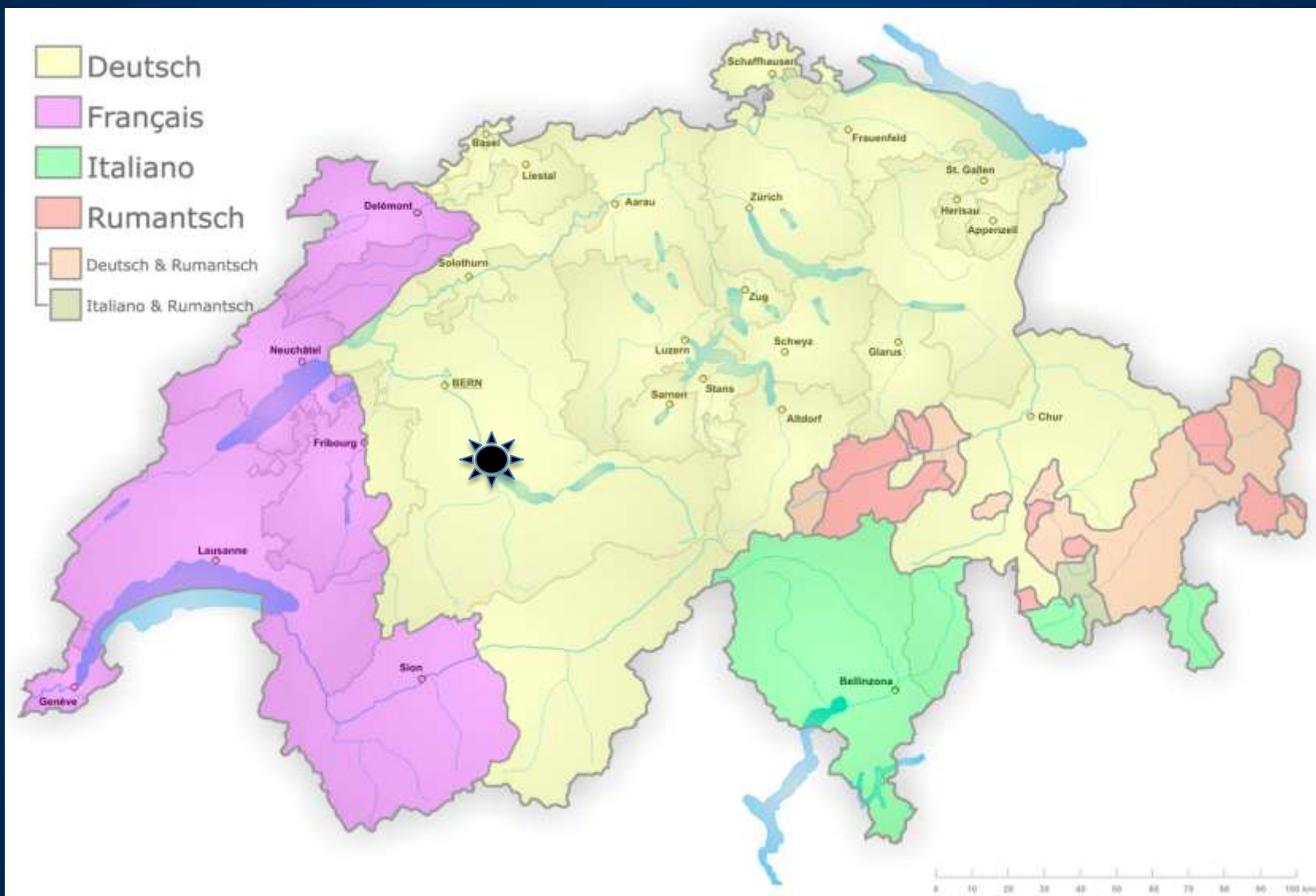






















1) International experiences open the world up to unique viewpoints and life-changing experiences – every student should do them, especially engineers!





# What is Entrepreneurship?

**Creative  
Problem  
Solving**



**Starting  
Companies**



# Defining Entrepreneurship

1. Serve relatively large external community
2. Propose a product or service for that community based in-depth knowledge of that community
3. Design and implement with courage and resilience, recognizing all constraints such as cost etc.
4. Be evaluated by external community





# Personal Tension

## “I space”

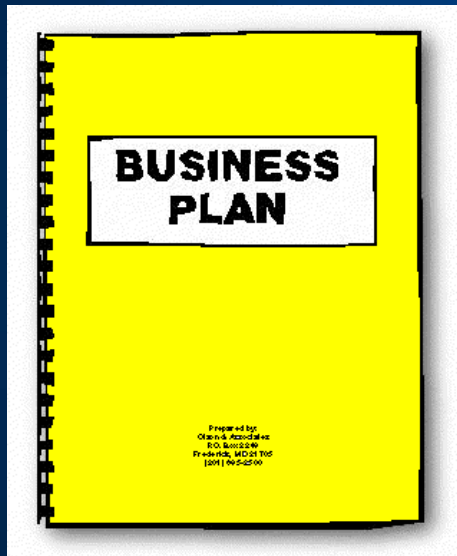
have courage, and perseverance. Have a mindset of risk-taking and a series of skills



## “Them space”

have humility to understand that you can propose and implement ideas, but the customers decide whether it is good

# Entrepreneurship or Business Plans?



vs.



No Business Plan survives first contact with customers!





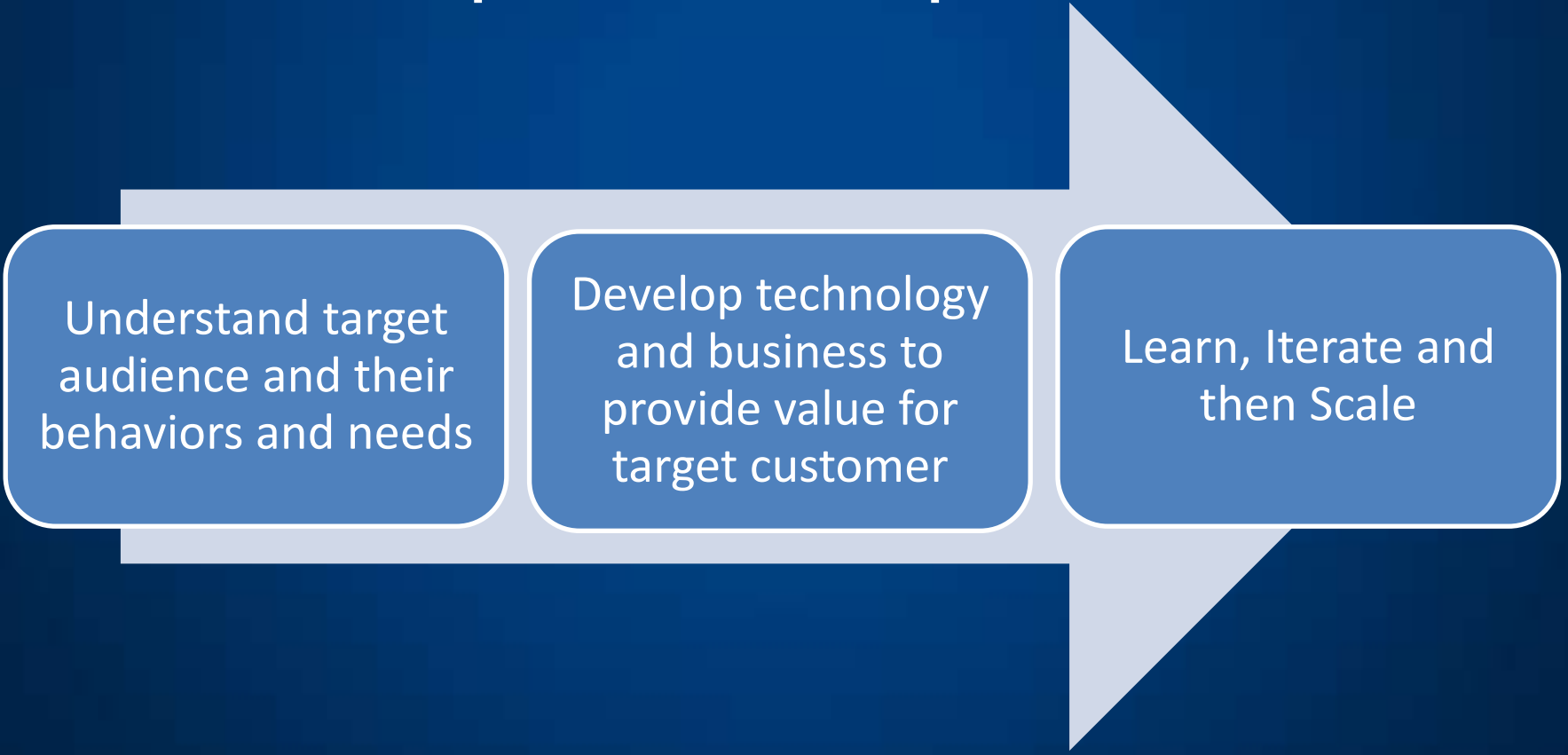
# Customer Discovery

Fact: More entrepreneurial projects fail from lack of customers or alignment with target community than from failure of the product!

→ Success comes from in depth understanding of customers and their needs and constraints



# Entrepreneurship Process



Understand target  
audience and their  
behaviors and needs

Develop technology  
and business to  
provide value for  
target customer

Learn, Iterate and  
then Scale





2) International experiences create reference points for customer discovery, understanding human behavior – every entrepreneur needs that



# Buying bread







# Two examples

- IMAGINE – an international class project
- M-HEAL – a global health focused student organization



MICHIGAN  
ENGINEERING

UNIVERSITY of MICHIGAN







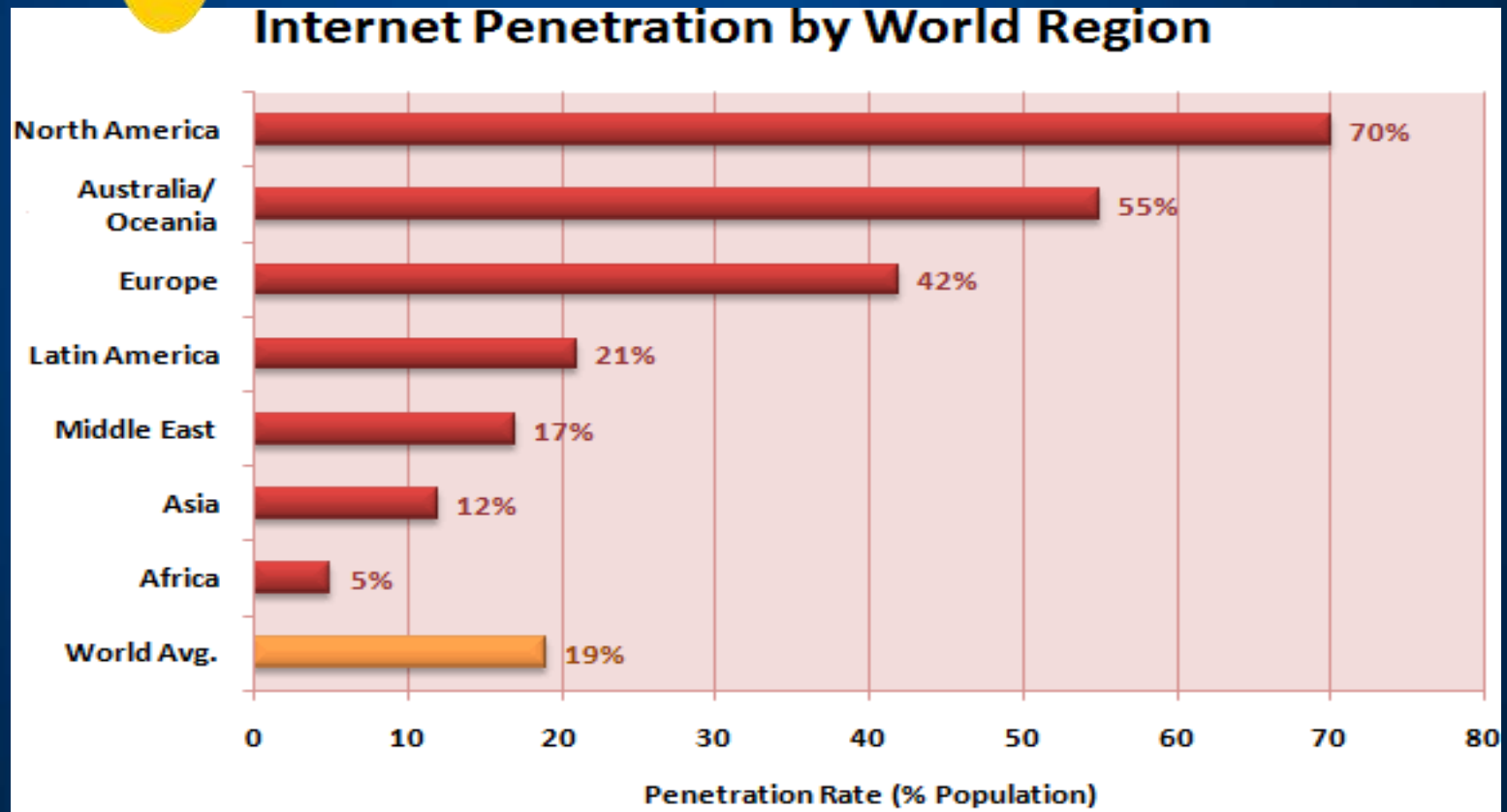
MICHIGAN  
ENGINEERING

UNIVERSITY of MICHIGAN

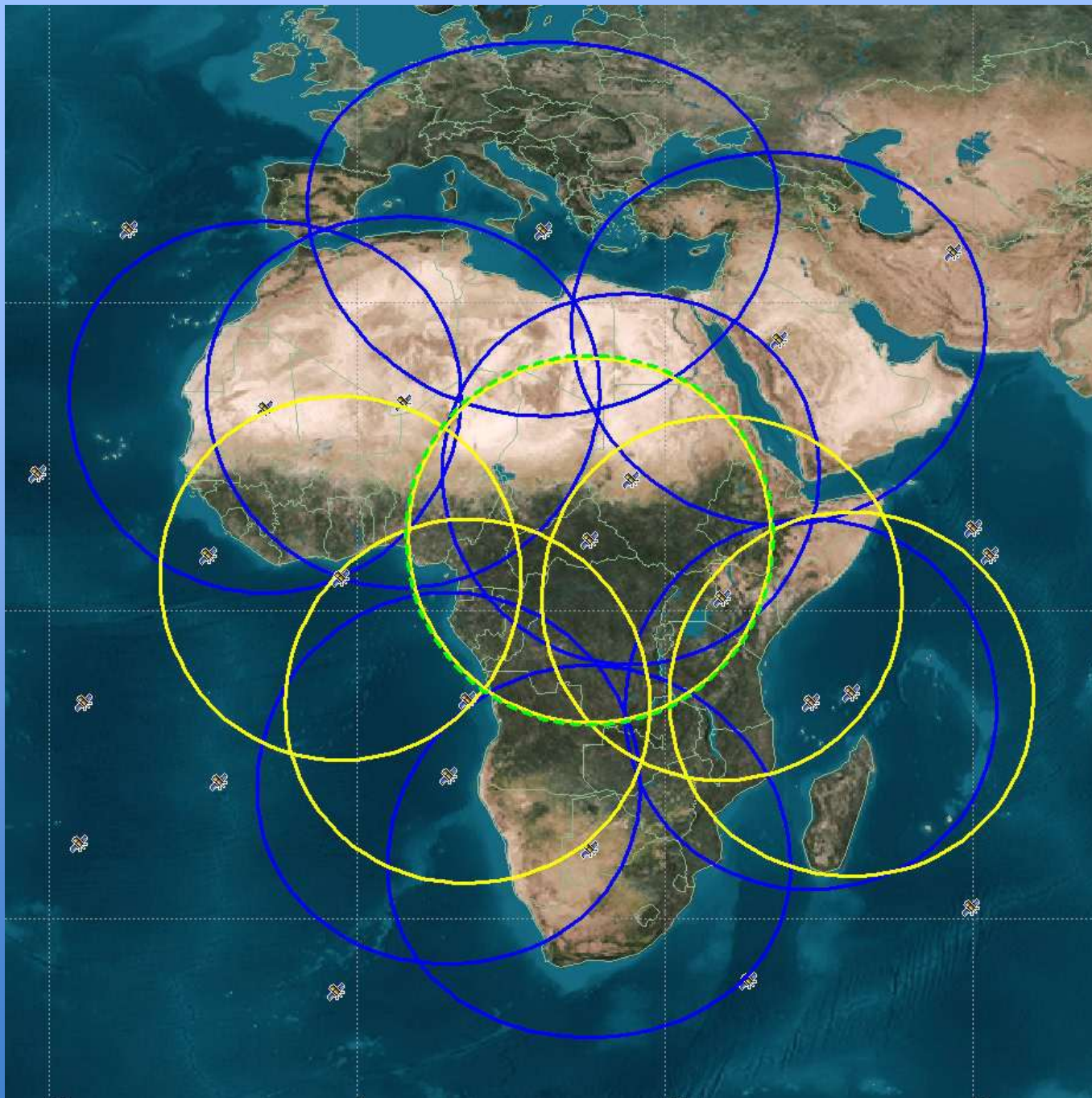




# IMAGINE















# Lessons from International Experience

“There is really no substitute for actually getting out in the field and learning from the experience.

“I learned that although you can design and build a system to meet all its requirements, **that doesn't mean that those were the right requirements in the first place.**”



# Make you a better engineer?



“I think this made me a better JPL engineer because **I got to experience troubleshooting under pressure in a real life situation.** {.} I also learned how important integration and test preparation is.”



# Make you a better person?

“I also think that working on something that isn't just for a grade is valuable because you feel like you are held more accountable.

It's not just about you. Someone else is depending on you.”





## Student organization

**Vision:** M-HEAL strives to cultivate a well-informed, creative, and collaborative community prepared to make a positive impact for global health. We envision a world where every person has access to appropriate, affordable, and high-quality health care.

<http://www.youtube.com/watch?v=tMUC1q07cZY&list=FLWk3V1Vkg4MHUJKaoPBSWEA&index=6>



MICHIGAN  
ENGINEERING

UNIVERSITY of MICHIGAN





3) International experiences create an “immigrant mindset” which powers innovation and creativity





Sandy Robertson  
Francisco Partners

Grandfather of Venture  
Capital

“Most important characteristic of a successful entrepreneur: be an immigrant!”



## Some facts...

- Over 50% of tech companies in innovation centers are founded or co-founded by immigrants
- Over 25% of all US patent applications name immigrants as co-inventors
- For 100 recipients who get PhDs in science and engineering, the US gains over 60 patents.



# An immigrant mindset

- Be displaced from the usual, be uncomfortable
- Learn how to make it in a new environment with different values
- Worrying about being good enough
- Doing despite not fully understanding





# International Experiences and Entrepreneurship

- 1) International experiences open the world up to unique viewpoints and life-changing experiences – every student should do them, especially engineers!
- 2) International experiences create reference points for customer discovery, understanding human behavior – every entrepreneur needs that.
- 3) International experiences create an “immigrant mindset” which powers innovation and creativity.



MICHIGAN ENGINEERING

---

UNIVERSITY of MICHIGAN ■ COLLEGE of ENGINEERING

- <http://www.facebook.com/thomas.zurbuchen>
- Twitter: @thomaszurbuchen
- <http://www.facebook.com/michigan.engineering>