



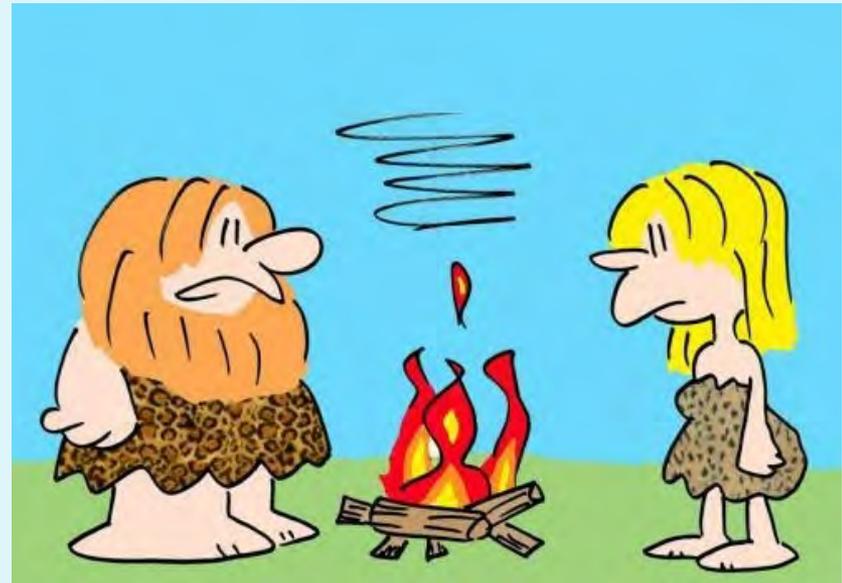
# **AAWRE and Specialty Board Certification Today**

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# In the beginning...

- Advanced certification of sanitary engineers (1955)
  - American Engineering Intersociety Board (now AAEEES).
  - ASCE was a sponsoring organization.
- Civil Engineering Certification, Inc. (CEC) (2004)
  - AAWRE launched as pilot program with support of EWRI.
  - Other civil engineering specialty academies added later.



# Board Certification in ASCE

- AAWRE: American Academy of Water Resources Engineers (2004).
- AGP: Academy of Geo-Professionals (2008).
- ACOPNE: Academy of Coastal, Ocean, Port and Navigation Engineers (2009).
- Additional specialties on the horizon.

These represent the highest specialty certifications available in Civil Engineering



# What is a Diplomate (D.WRE)?

- ***A person who holds a diploma***, especially a physician qualified to practice in a medical specialty by advanced training and experience in the specialty followed by passing an intensive examination by a national board of senior specialists. [Merriam Webster Dictionary]
- Now also, a civil engineer qualified in a civil engineering specialty by...



# AAWRE Vision & Mission



AAWRE

## ***Vision***

Board certified water resources engineers are global leaders serving society in advancing sustainable management of the world's water.

## ***Mission***

Improve the practice, elevate the standards, and advance the profession of water resources engineering for the benefit of the public. [AAWRE Bylaws]



# Delivering on the Mission: Academy Objectives

AAWRE

- Identify and certify engineers with specialized knowledge in water resources.
- Recognize the ethical practice of water resources engineering.
- Encourage life-long learning and continued professional development.
- Enhance the practice of water resources engineering.
- Support/promote positions on water resources issues important to the public health, safety and welfare.



# Delivering on the Mission: Primary Activities

AAWRE

- **Board Certification**
- **Awards**
  - *Outstanding Practitioner in Water Resources Engineering*
  - *Service to the Academy*
  - *Outstanding Research and innovation in Water Resources Engineering*
- **Other Activities**
  - *Educational/professional development*
  - *RFP language*
  - *Promotion at conferences*

Over 700 have  
been board  
certified in WRE



# Where do we go from here?

~1400 have been  
board certified by  
CEC Academies

## Potential for CEC Certification

	Within ASCE	Beyond ASCE	Total
Estimated Market	12,000	49,000	61,000
% Likely to Pursue Certification	10 – 20	5 - 10	
Attainable Market	1,200 – 2,400	2,400 – 4,900	3,600 – 7,300



# How growth can happen:

1. Increase certification within ASCE membership within current academies.
2. Expand the specialty disciplines, e.g. transportation, structures.
3. Increase certification beyond ASCE in all disciplines.
4. Increase penetration rates from 5-20 percent to 50 or 60 or 70 percent.



# Challenges and Opportunities



- Need wider recognition by the public, engineers, employers, and procurers of engineering services.
- Lack of scale makes investments difficult to maintain.

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- Capacity of ASCE to leverage its information and marketing programs to promote board certification.
  - Overcome misperceptions of attainability of board certification – Career step rather than lifetime achievement.



# What can we learn from others?

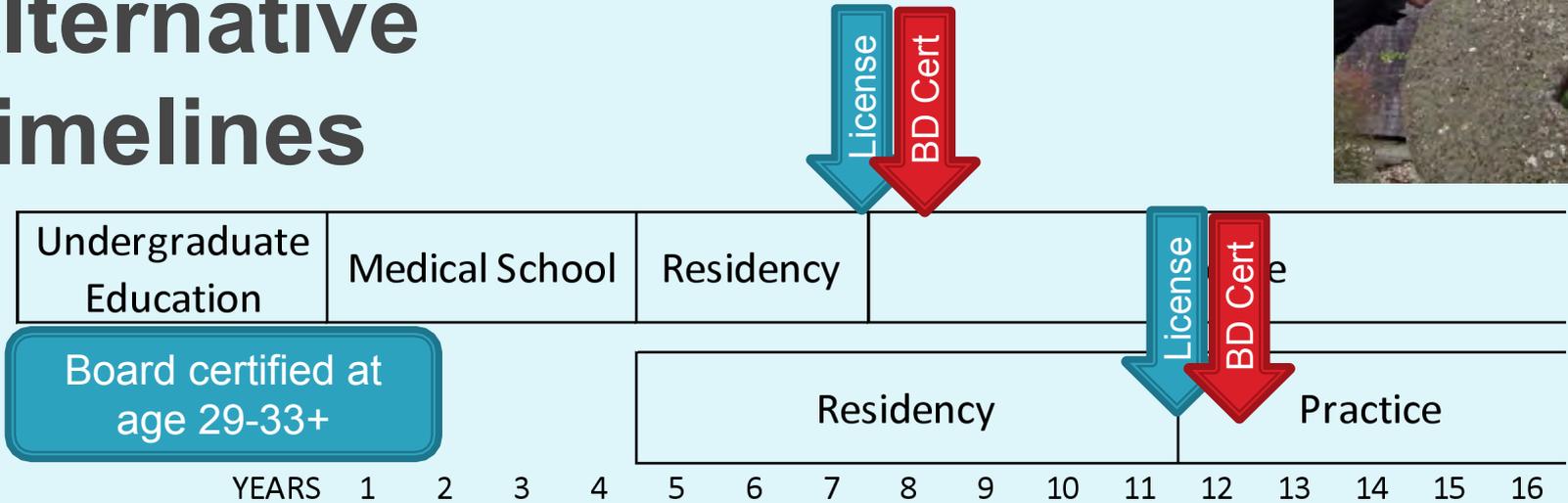


- Doctors are **required** to have a state medical license.
- Doctors **choose** to seek board certification by demonstrating:
  - Specialty training, skill, knowledge
  - Additional experience
  - Commitment to improving care
- Hospitals, insurance companies, and patients seek out board certified doctors

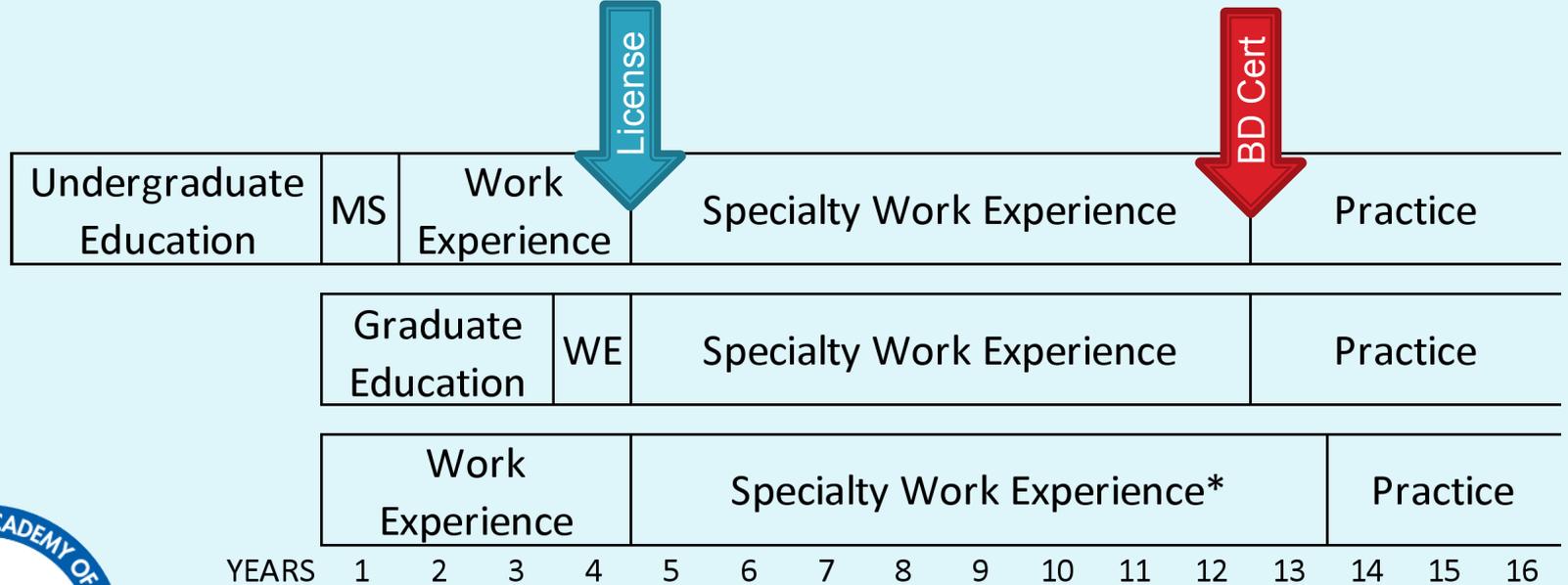
# Alternative Timelines



Medical Doctor



Civil Engineer

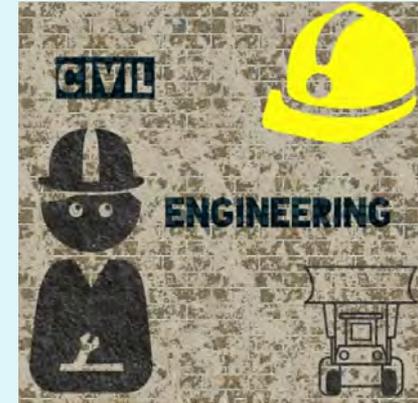
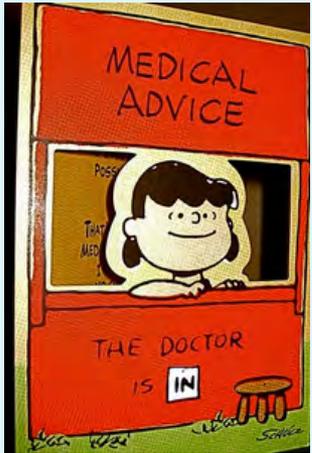


Board certified at age 34+



# Differences in board certification for these “learned professions”

- Medical board certification process:
  - Extensive and well documented.
  - Recognized by hospitals, insurers, patients.
  - Written testing more rigorous than oral exams.
  - Recertification not annual.
- Medical board certification scale:
  - Over 40 specialty boards.
  - 950,000 licensed doctors (100%)
  - Over 750,000 board certified doctors (79%)

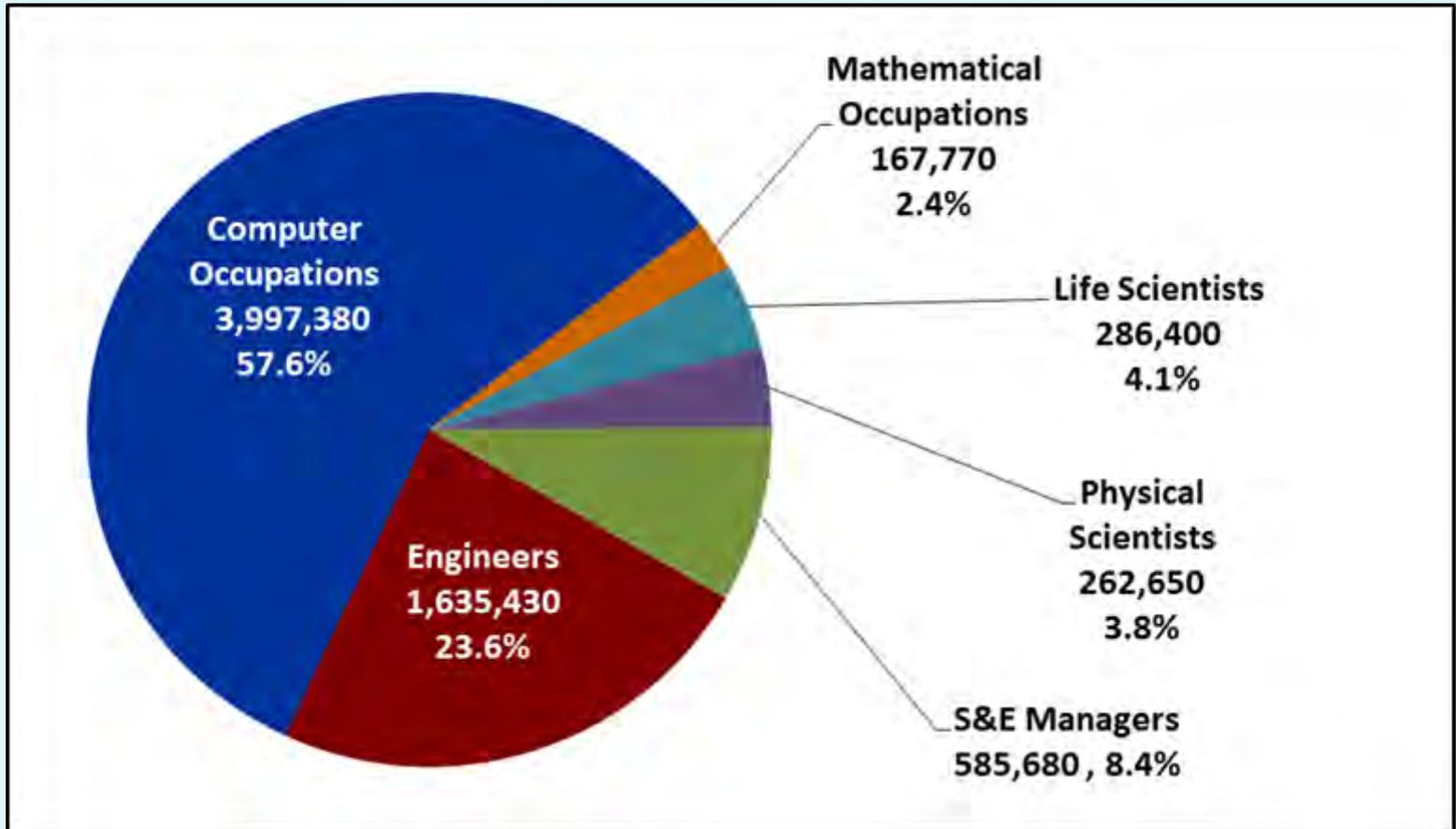


# Need to take a broad view of the future of CE board certification

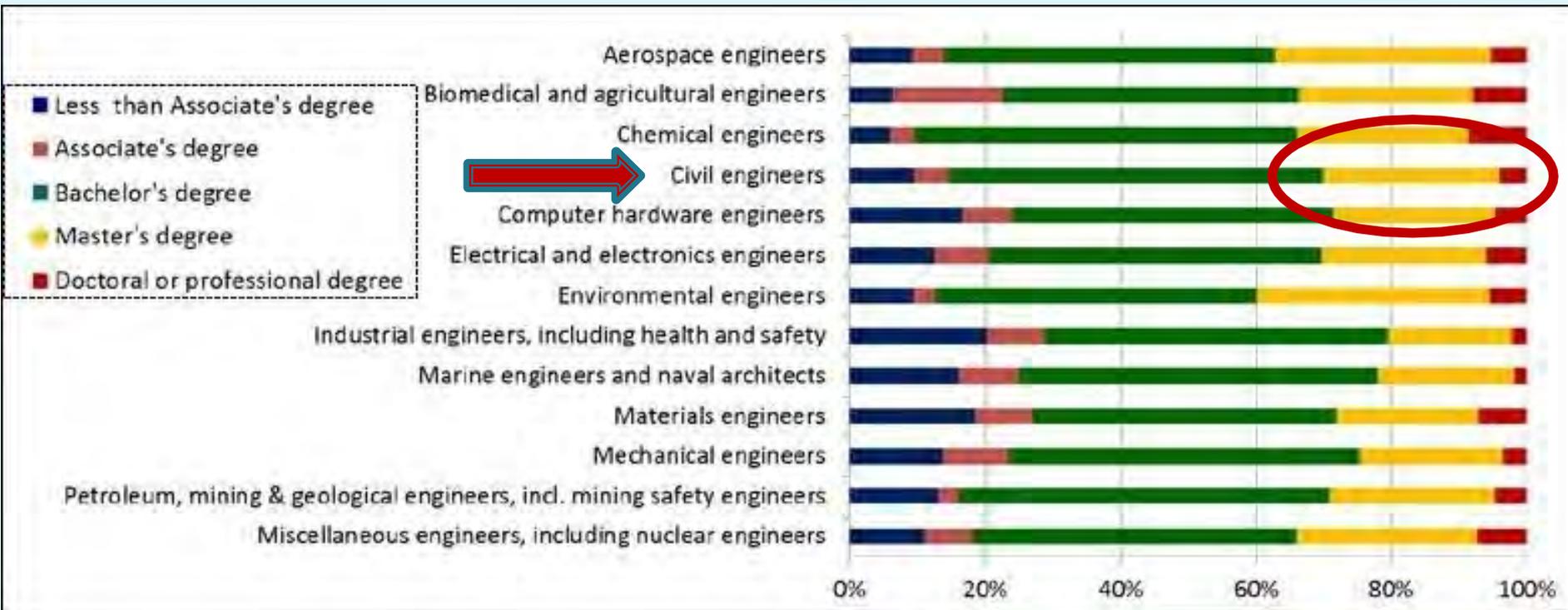
- Support and strengthen licensure
  - Entry point to professional practice.
  - Key to public acceptance and confidence.
- Significantly increase numbers of board certified engineers (expand disciplines)
  - Over 1.6 million engineers in 2016.
  - Close to 300,000 civil engineers in 2016.
  - Not all meet the education, training, and experience requirements.



# “Occupational” Employment for 2016 in Science and Engineering



# Education Levels by Occupation



# Revisit the question of scale: What is the future of EWRI's vision?

	Medical Doctors		Engineers		Civil Engineers	
	Number	% of Total	Number	% of Total	Number	% of Total
Total	950,000	n.a.	1,600,000	n.a.	287,000	n.a.
Licensed	950,000	100%	320,000	20%	58,000	20%
Advanced Degree	950,000	100%	480,000	30%	86,000	30%
Board Certified	750,000	79%	3,700	0%	1,400	0%

## ***Needs:***

- Higher rates of licensure.
- Higher rates of advanced education.
- Higher rates of board certification.
- Expansion beyond civil engineering.



# Collaboration: Within and beyond ASCE

- ASCE:
  - Unify policy statements.
  - Define civil engineering specialties.
- AAEEES: Over 2300 board certified environmental engineers in several specialties.
- Structural Engineers Certification Board (SECB)
- Institute of Transportation Engineers (ITE)
- NSPE: Advocate for licensure.
- NCEES: Licensure.
- Academics: raising expectations of students.





# Messaging for the future

- Specialty board certification:
  - Enhances public health, safety, and well-being.
  - Advances the profession and individual careers.
- Collaborate across disciplines – think beyond civil engineering.
- Support and strengthen PE licensure.
  - Credibility for the profession.
  - Parallels medical licensure/board certification.

Why?

Because...  
It matters!

