

# Micropile Market!



Concrete Road in Wroclaw



Modern Kerosene Lamp

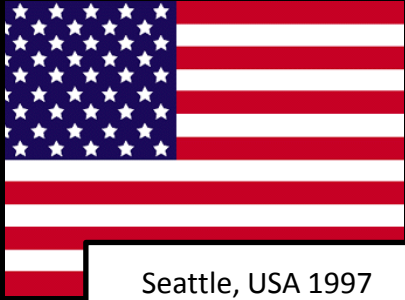


Arc Welding

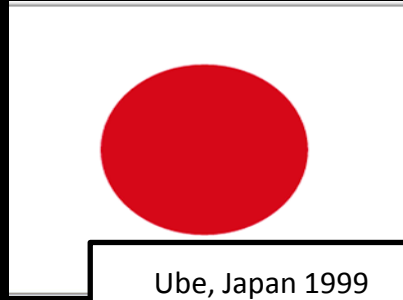


# Market Development of Micropiles

# Previous ISM Events



Seattle, USA 1997



Ube, Japan 1999



Turku, Finland 2000



Venice, Italy 2002



Seattle, USA 2003



Tokyo, Japan 2004



Schrobenhausen,  
Germany 2006



Toronto, Canada  
2007



London, UK 2009



Washington, USA  
2010



Milan, Italy 2012



Krakow, Poland 2014



# Managing Risk & Developing Markets

K's



KNOWLEDGE



“In order to deal with any matter it is essential to deeply know the way already covered by others...that is the  
the  
State-of-the-Art...In Theory and  
Practice

Ignorance does not pay. Beyond what has been already done there is probably something better to do.

This is based on knowledge, but sometimes is stimulated by Fantasy,  
by the Imagination...”

- Lizzi





# KOMUNIKACJA

Kommunication



# KULTURA

Kulture





# KOLEZENTSWO

Kamaraderie



# KRUPNIK





KNOWLEDGE

KOMMUNICATION

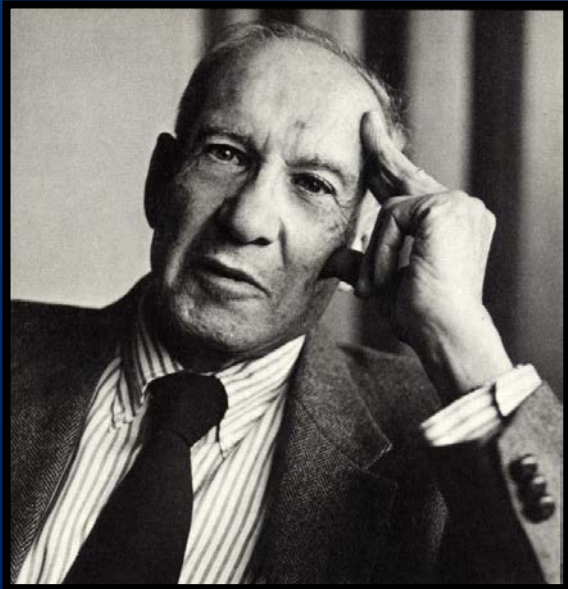
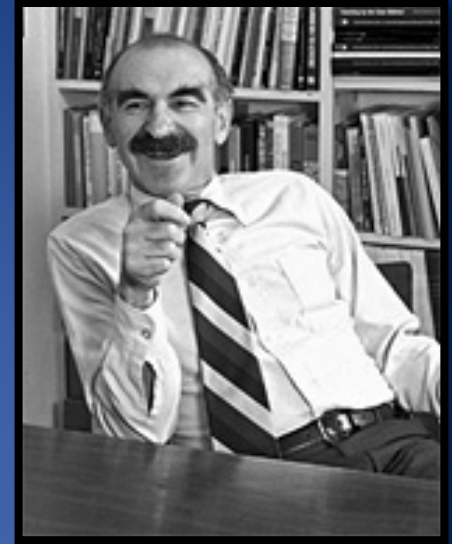
KULTUR

KAMARADERIE



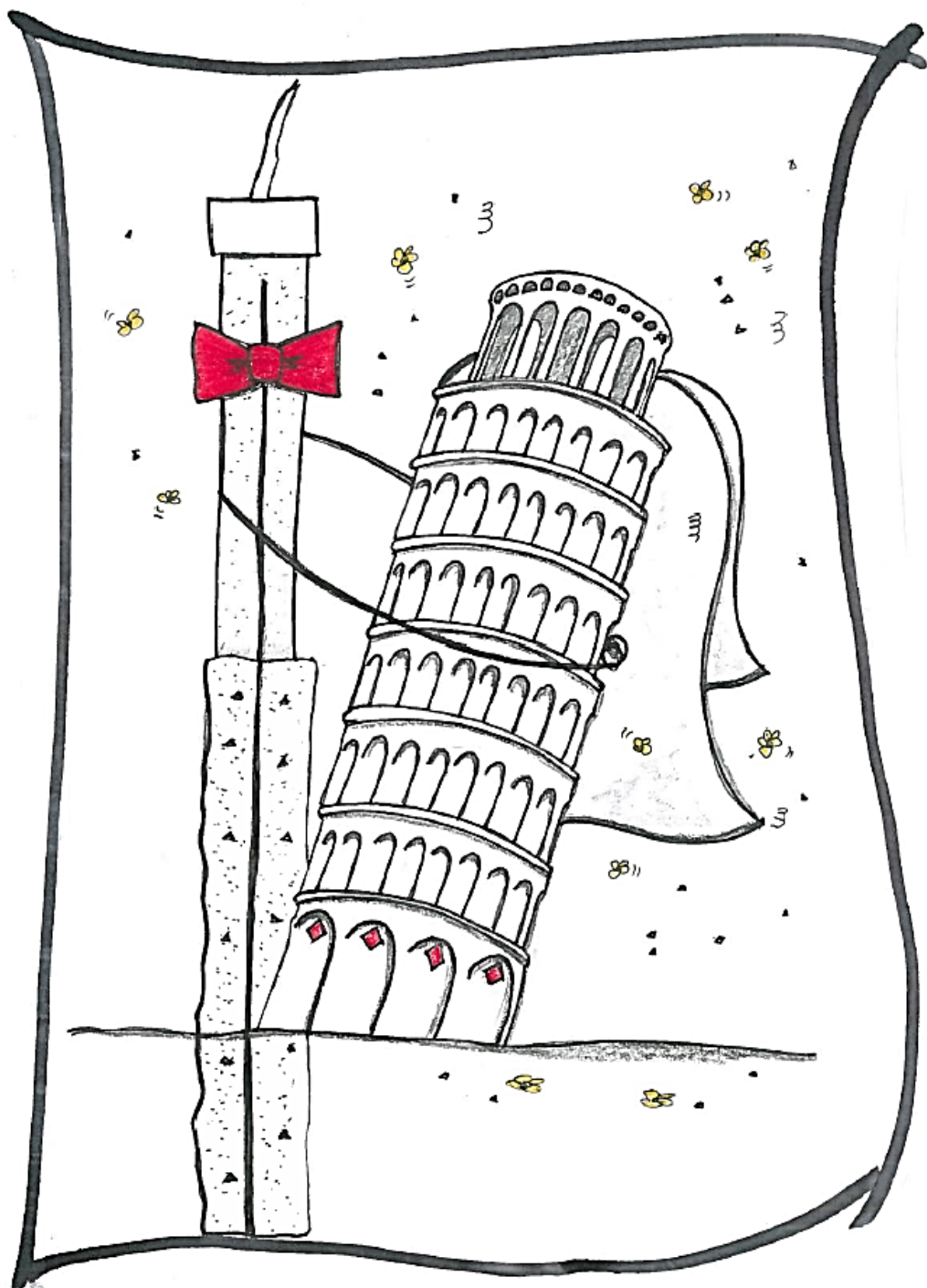
**“An Industry begins with the customer and his or her needs, not with a skill.”**

Ted Levitt 1960



**“The customer rarely buys what the business *thinks* it sells him.”**

Peter Drucker 1964

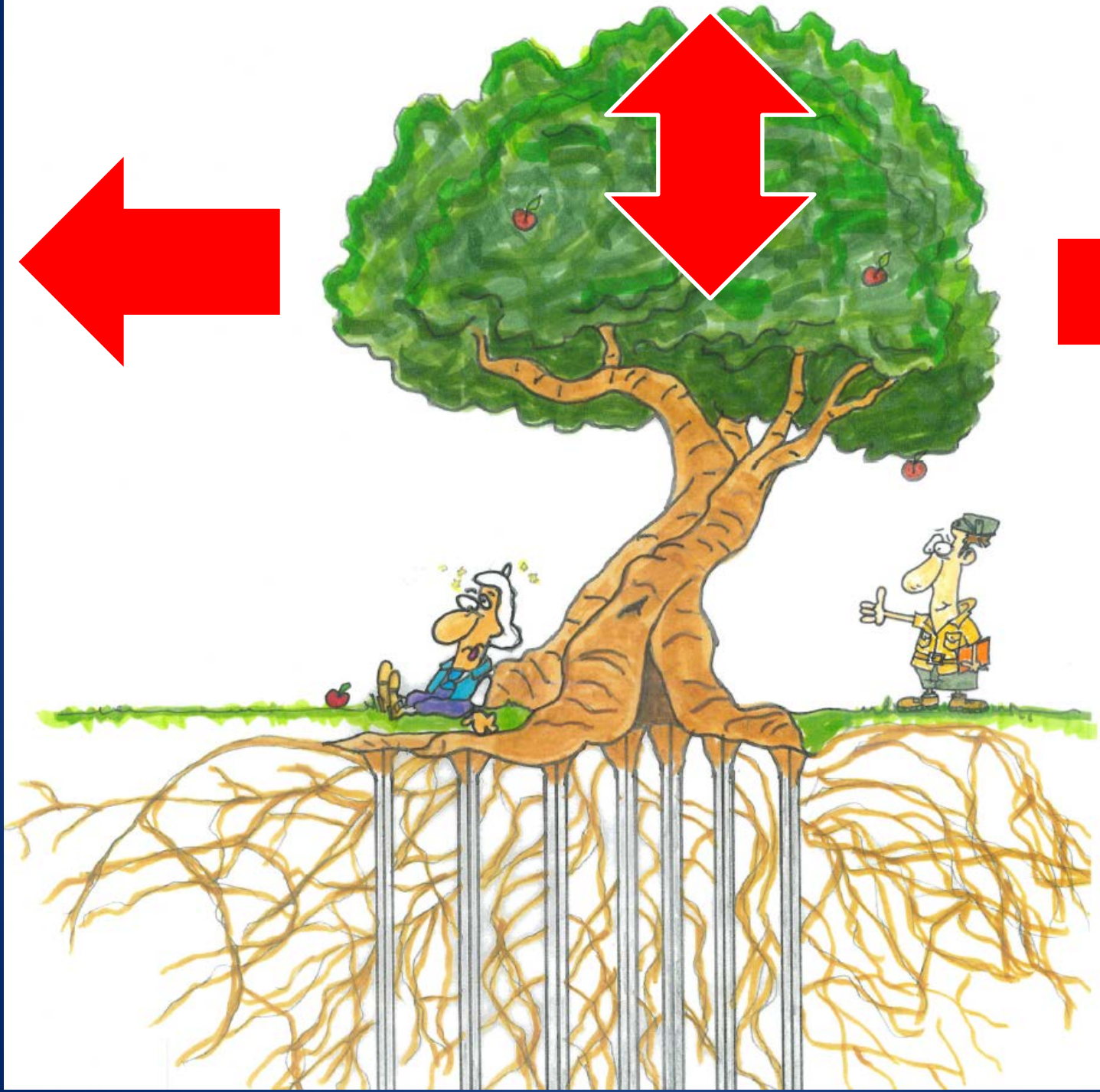


Need  
&  
Solution



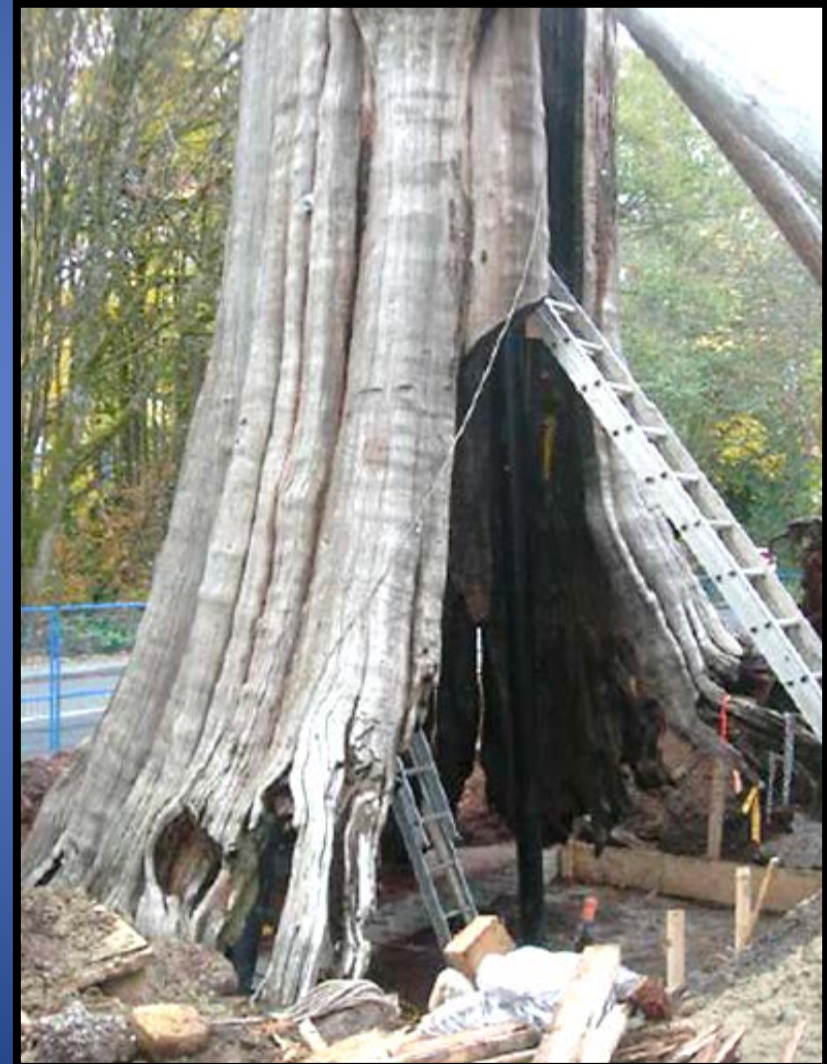








# "Root" Support







Hanshin Expressway (Hyogo Ken – Nanbu Earthquake 1995)



# Turku, City Centre

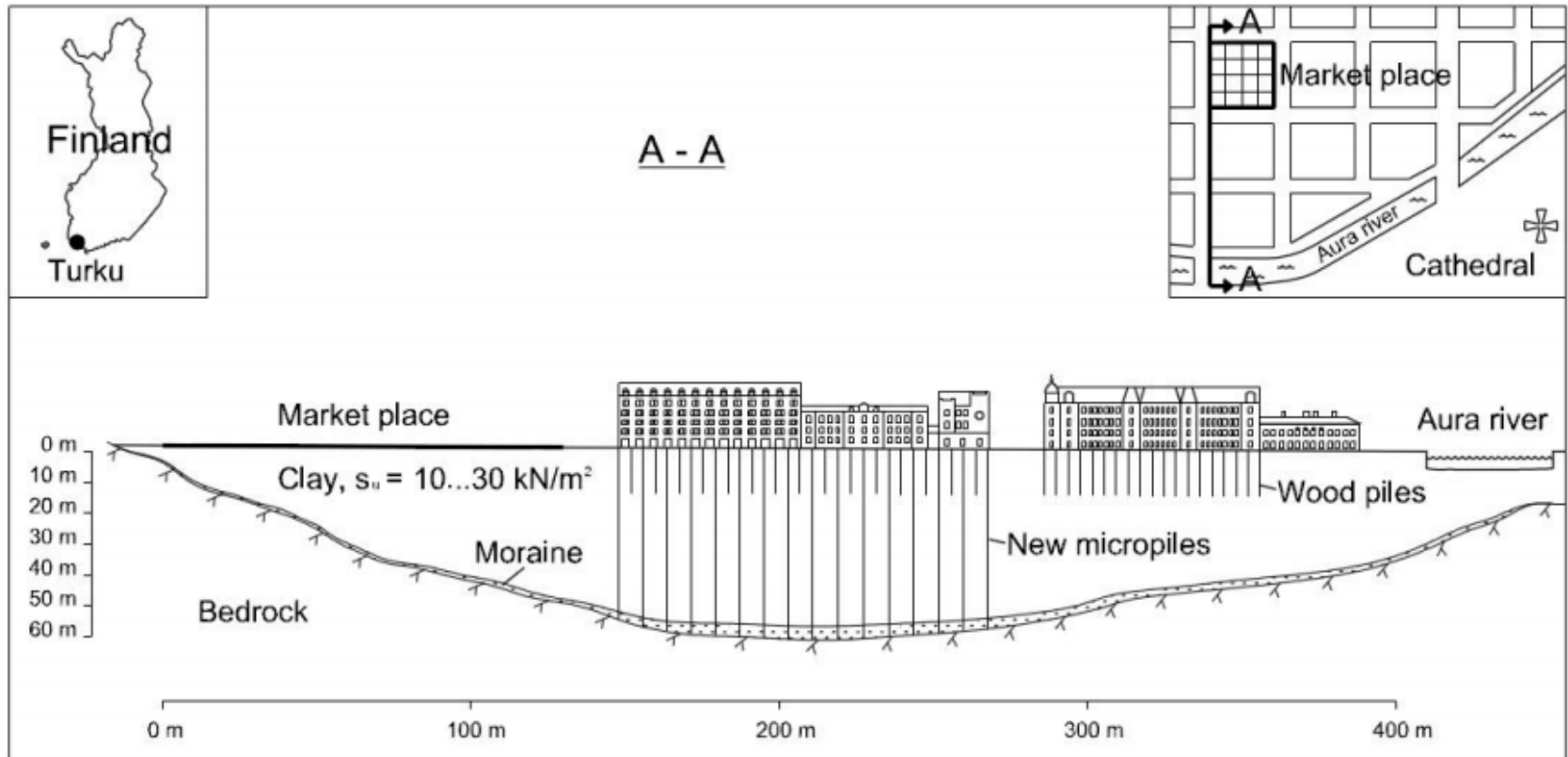


Aura River





# Turku, Finland



**Figure 4:** Soil profile in Turku city centre.

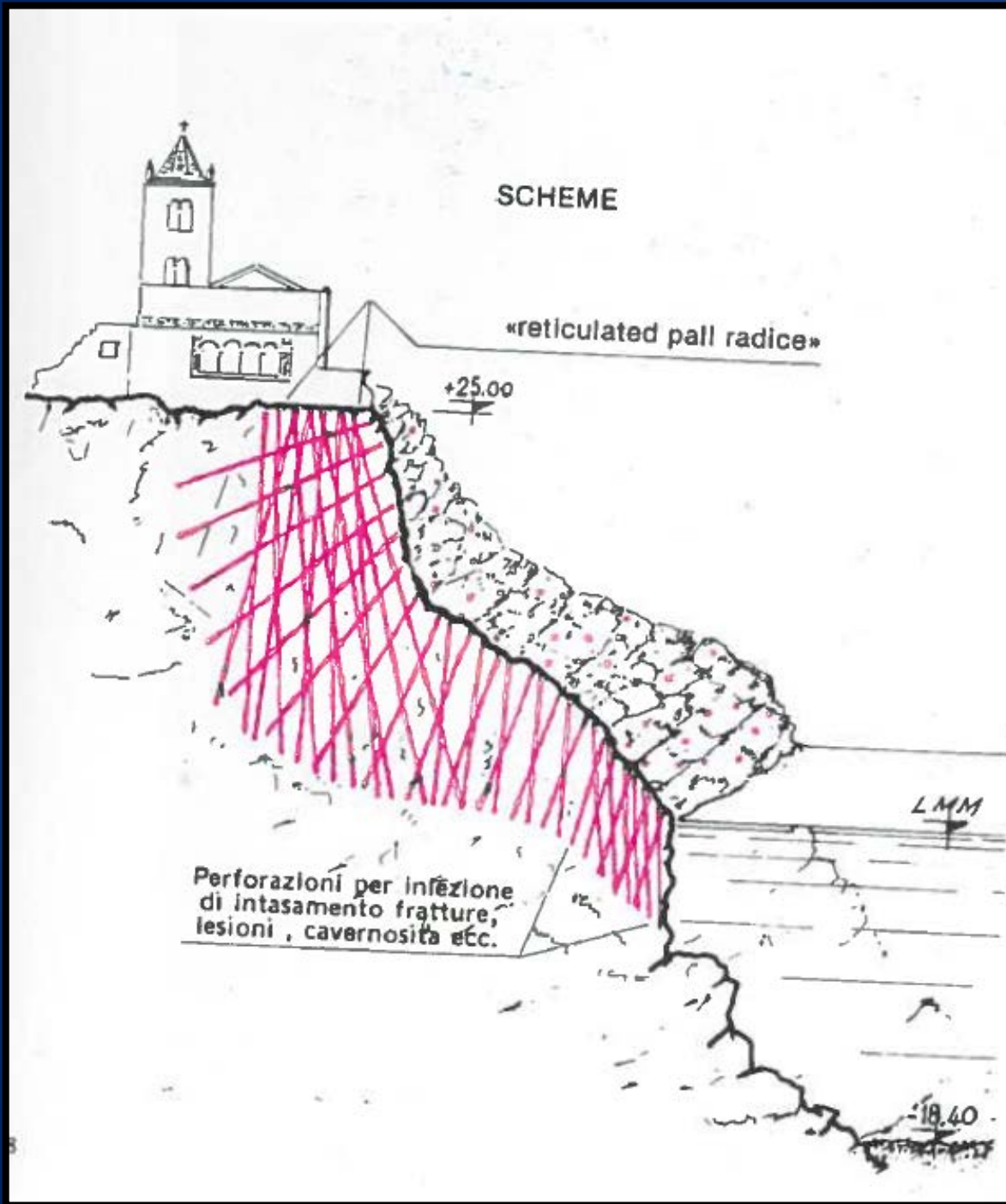


The Grand House





The San Pietro – Portovenere, Italy



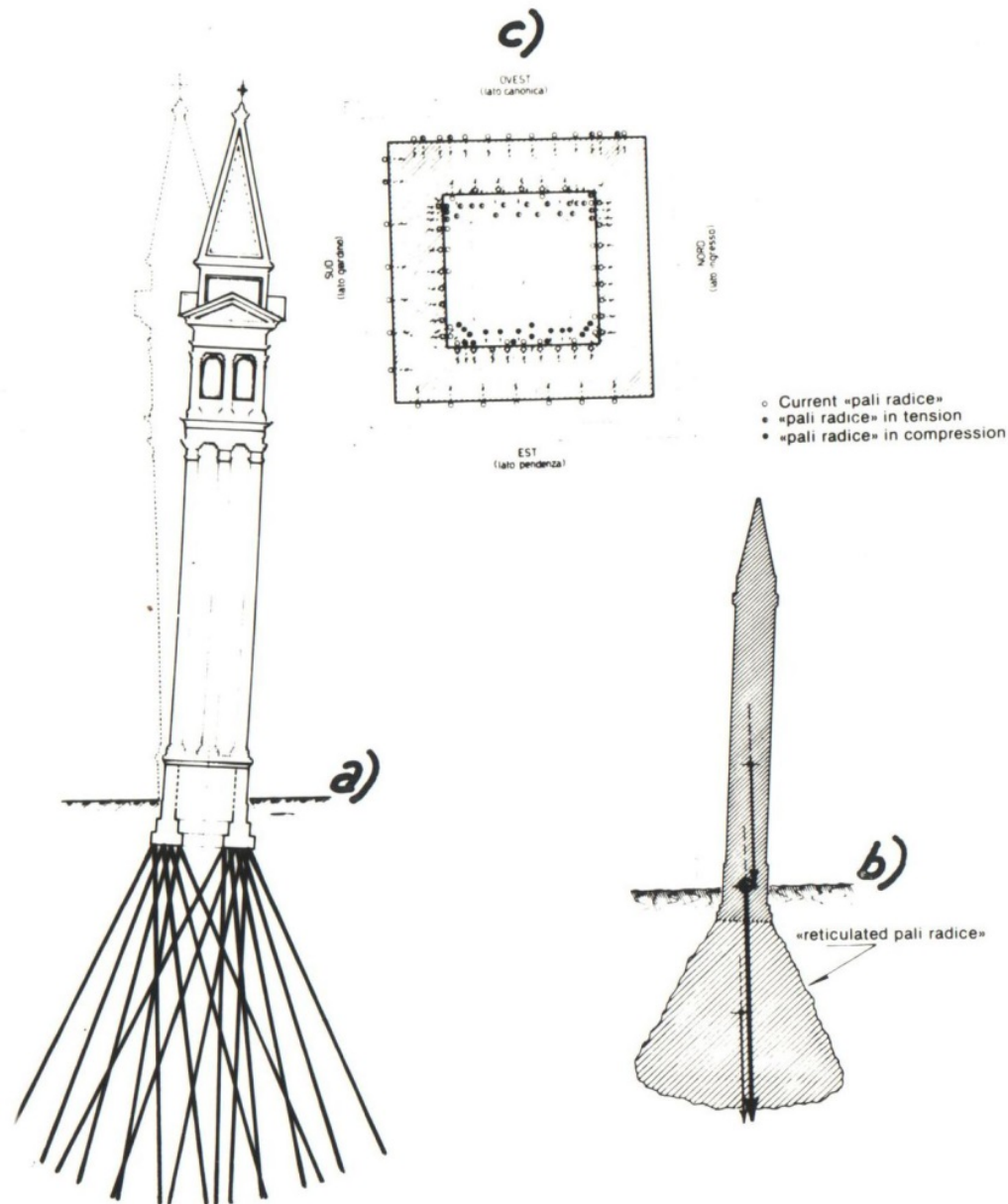
The Consolidation of a Monument Placed at the Limit of a Land Sliding Zone





# Burano, Venice Lagoon









Tip Top Lofts  
Toronto 2003



# Hospital - MaRs B







**Grimsby - 2003**





# Building Stilts



# Pyritic Shales

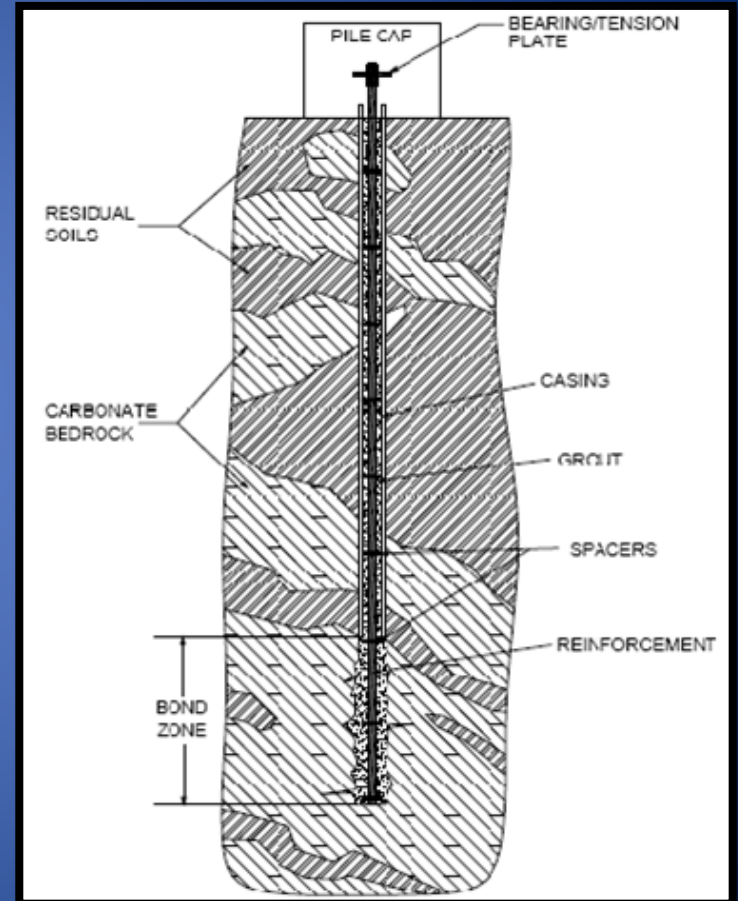
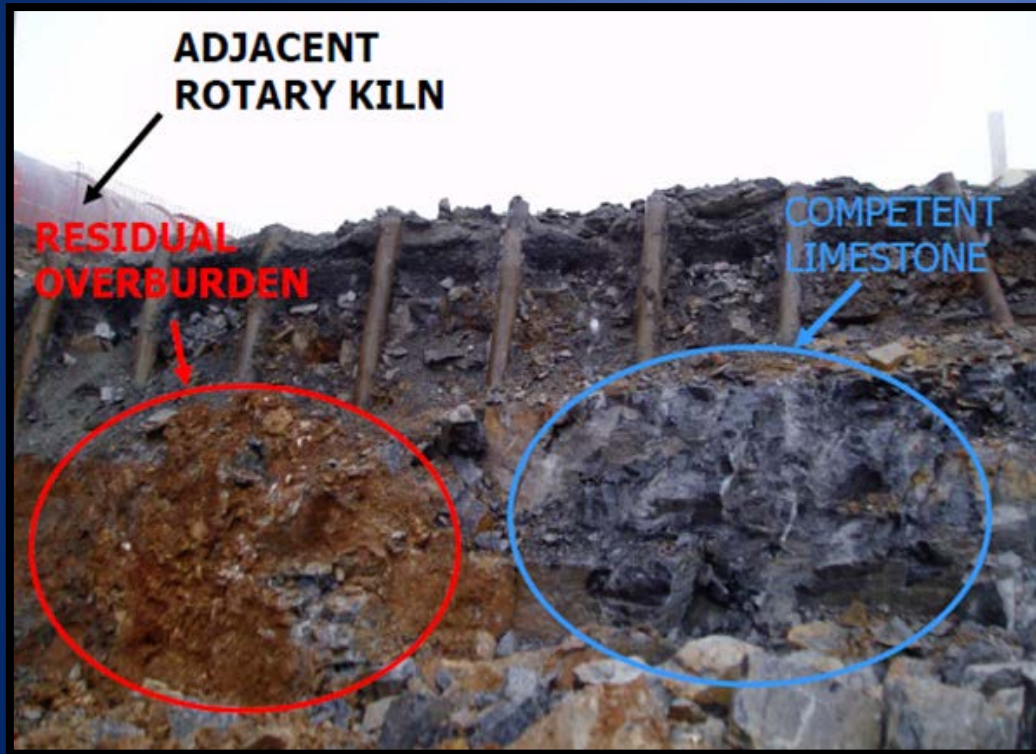


Cracked floor slab, displaced concrete walls and spread footing





# Karst Terrain

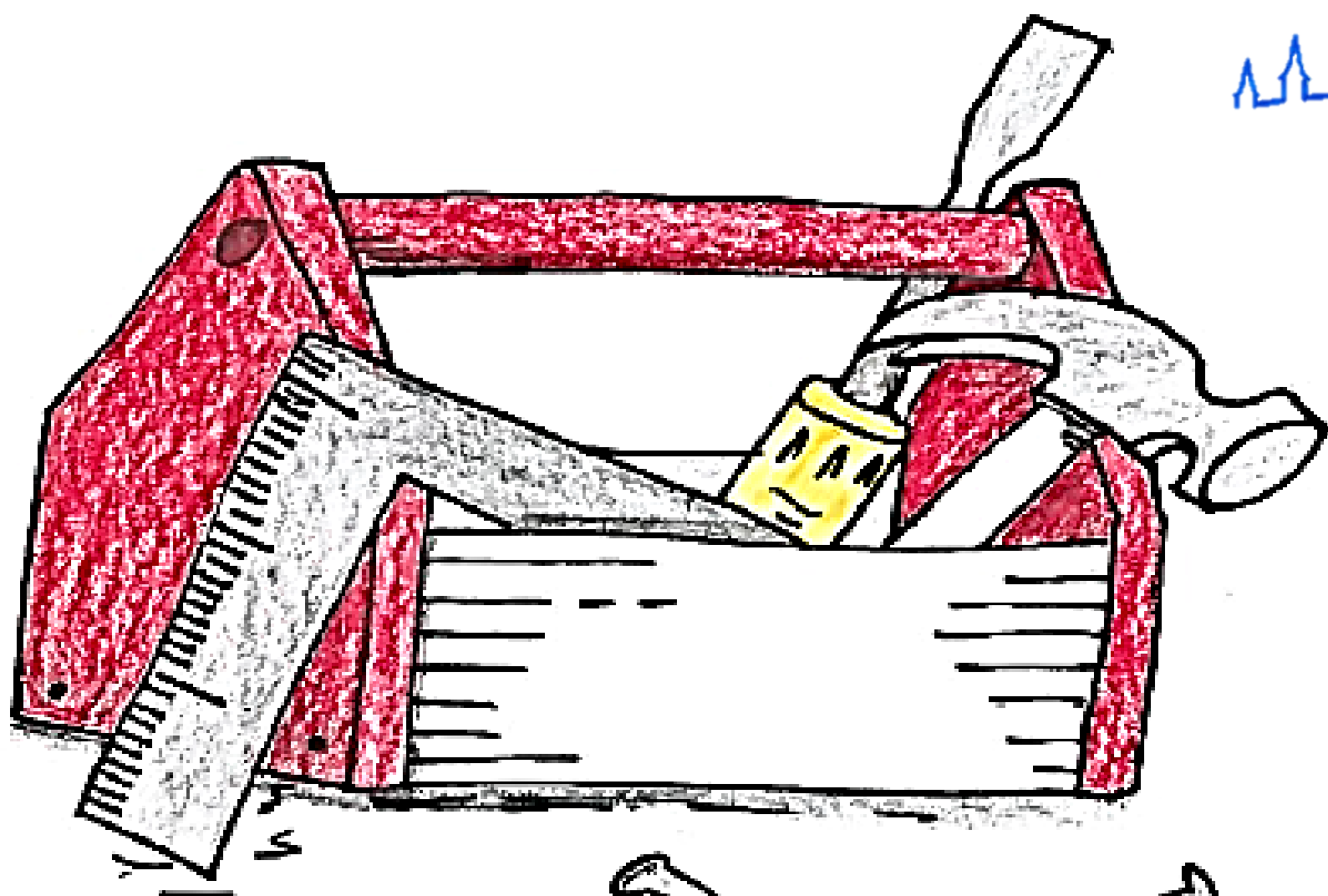




Kaizen



Tsukiji  
Fish Market







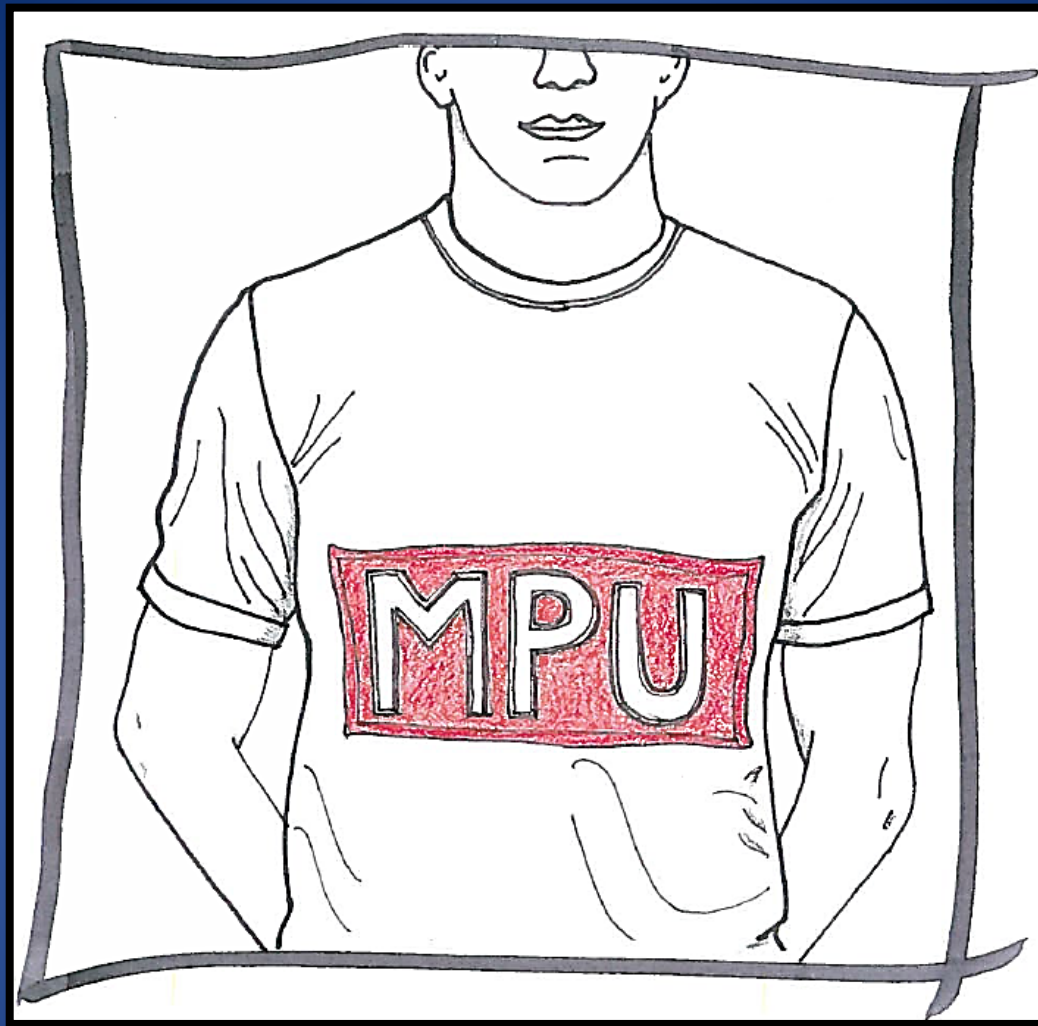
**First, Do No Harm - Hippocrates**



# Root Pile Chronicle Fiorovante Bares

NO WAY!

Piles of these dimensions and your system  
...will never work in this country.



“Our Best Friend is an Educated Client”

Donald Bruce



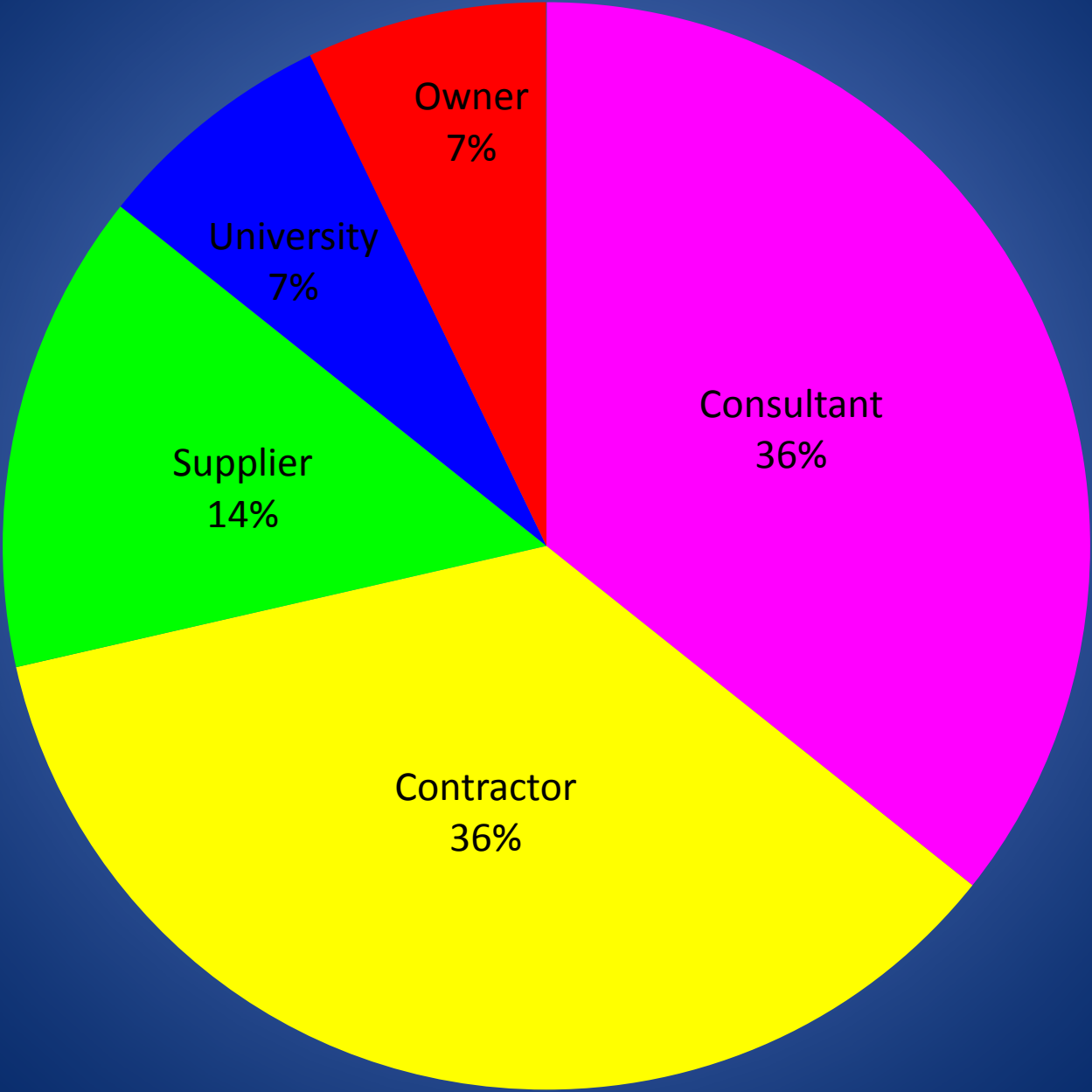
# Market Survey Analysis



# Where is Most of Your MP Work Carried Out?

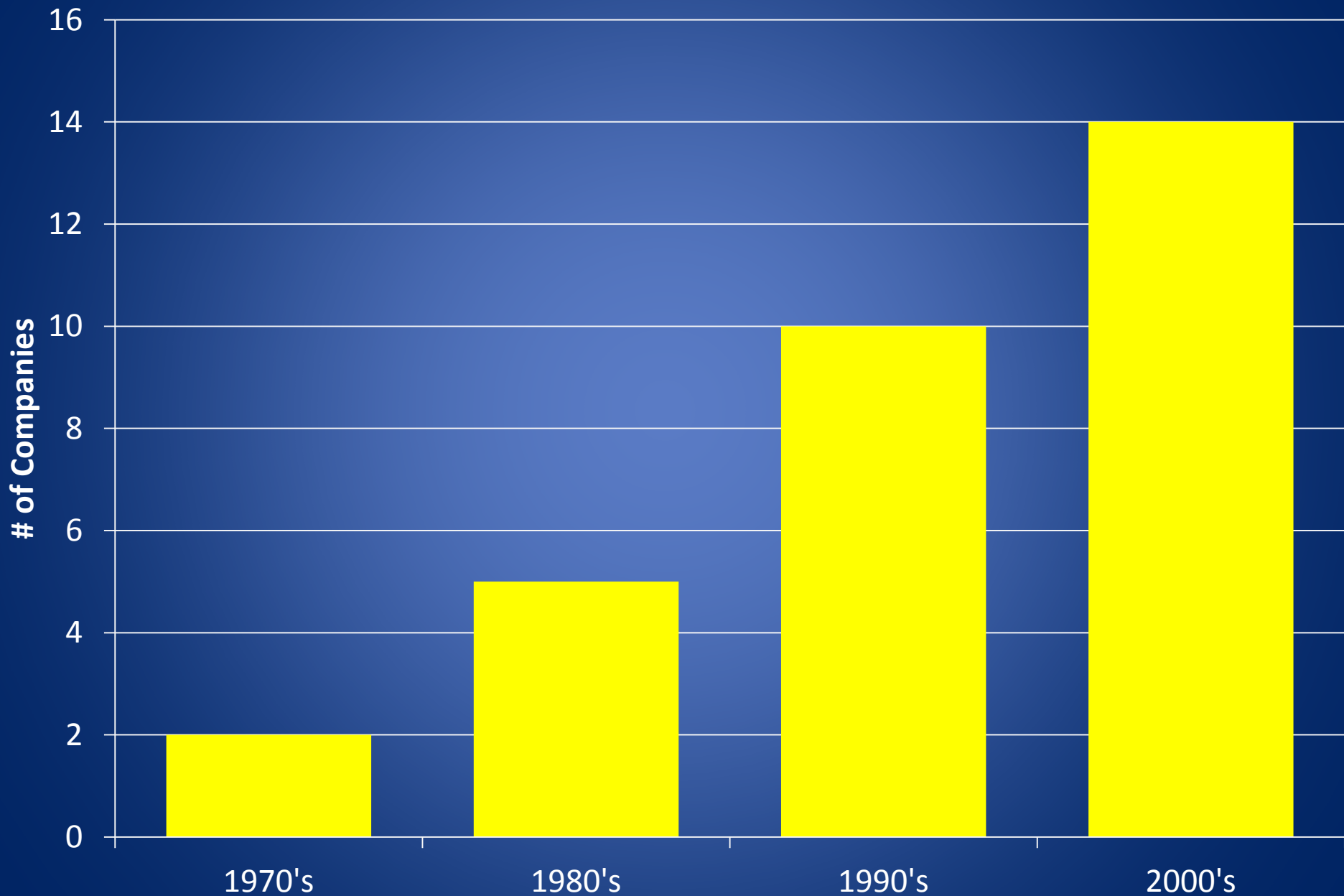


# Types of Companies

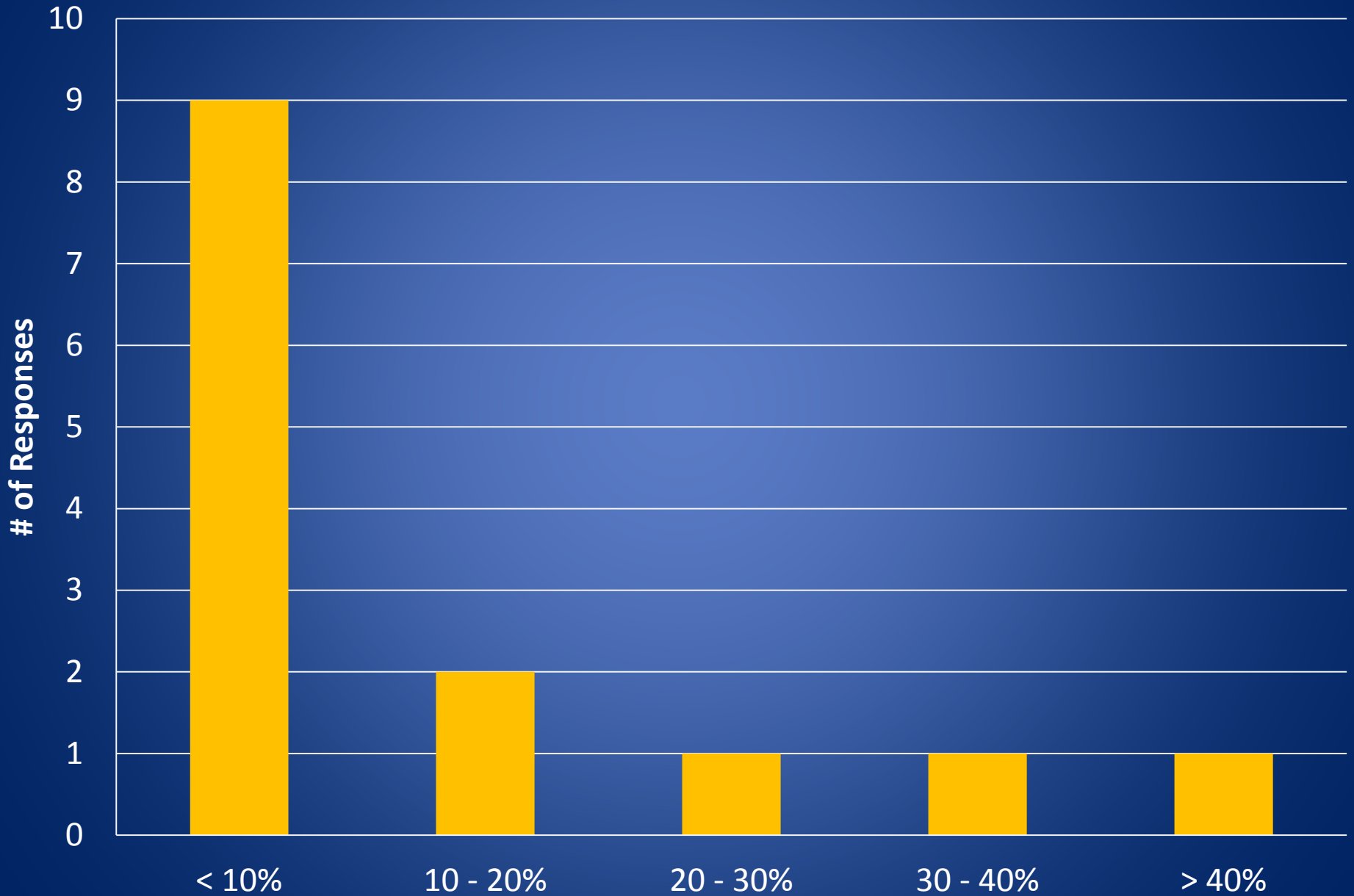




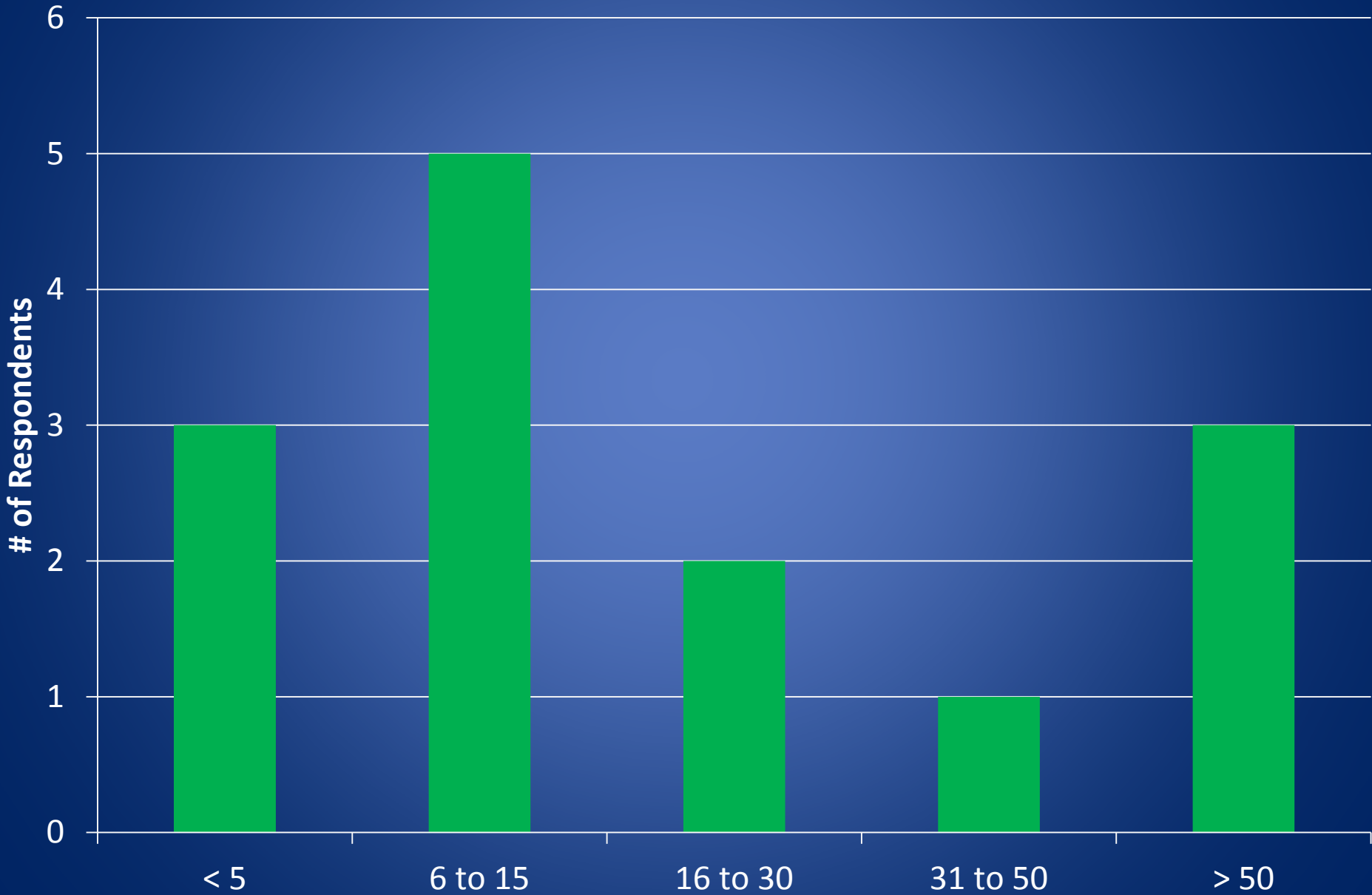
# Decade Companies Entered MP Market



# % of Revenue from MP Work

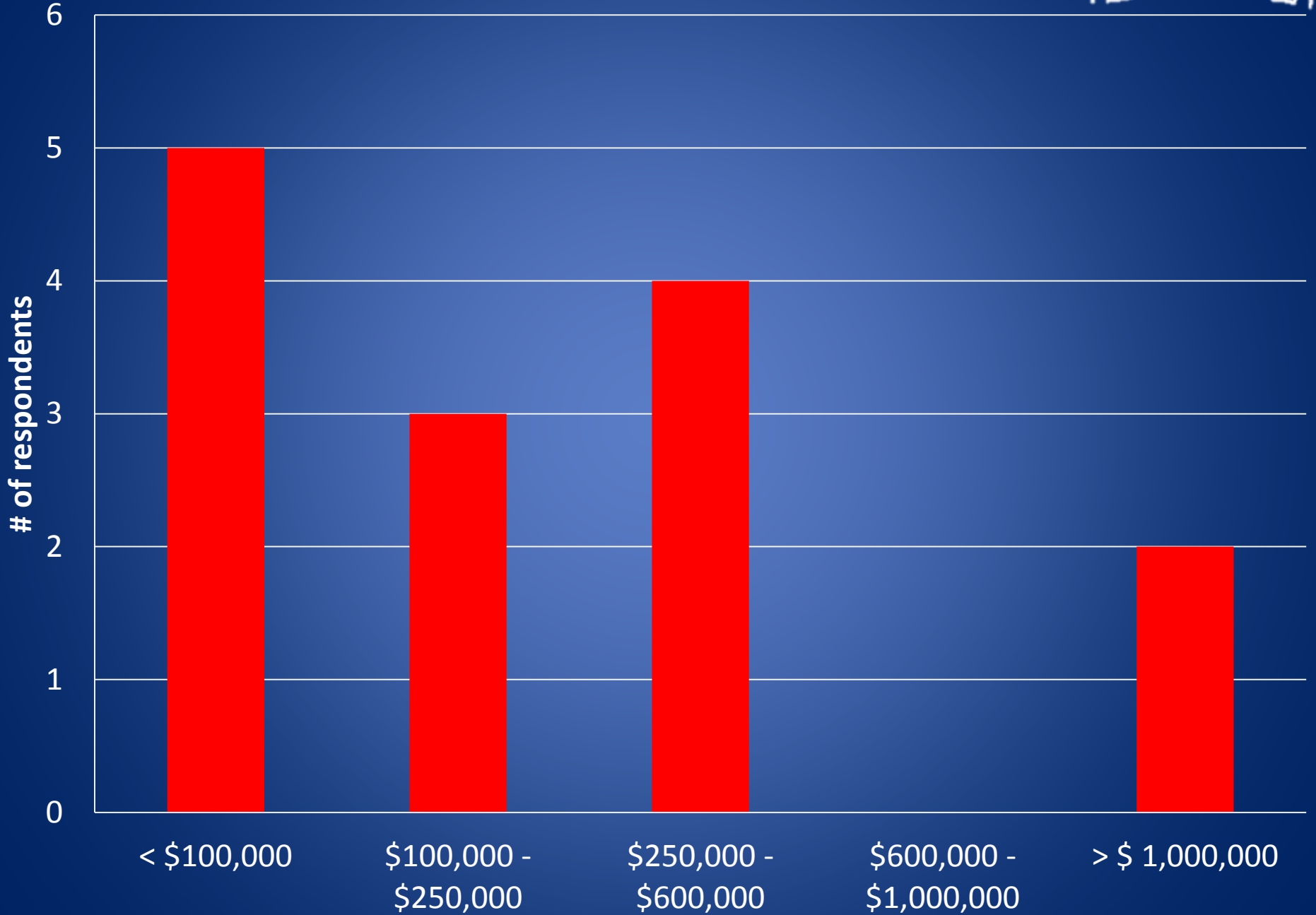


# How many Micropile Jobs does your Company Complete Per Year on Average?

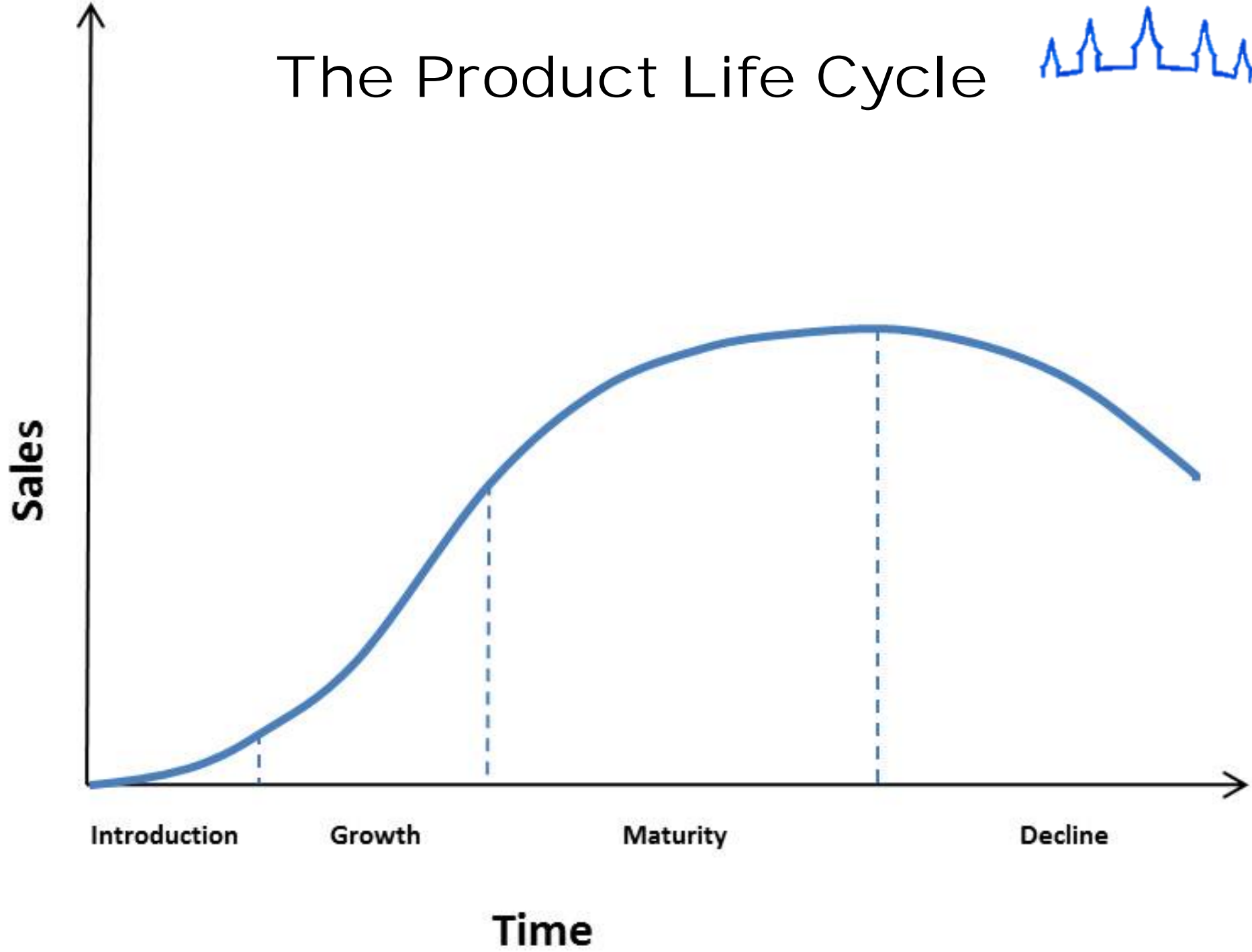




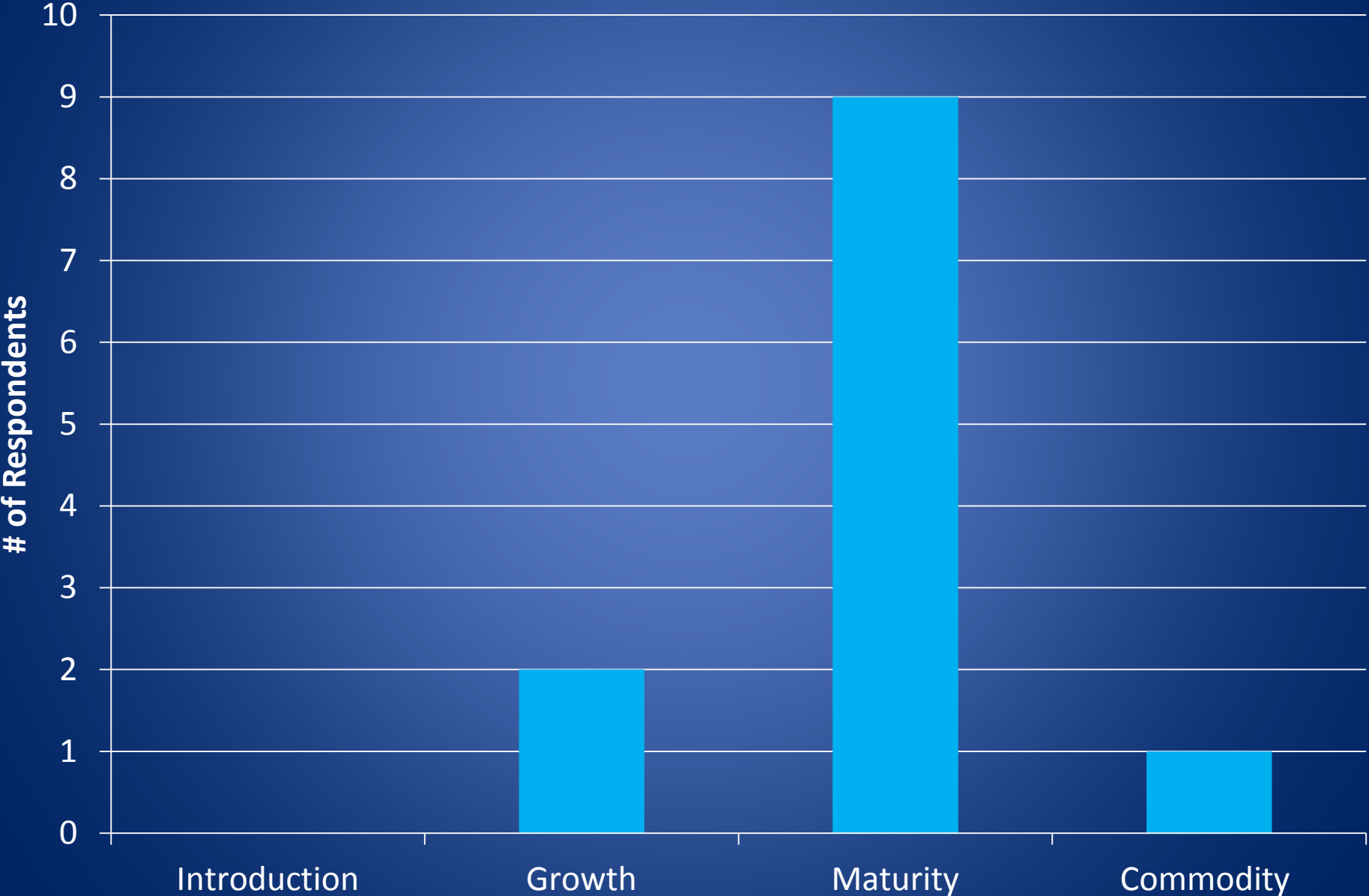
# Average Size of Project



# The Product Life Cycle

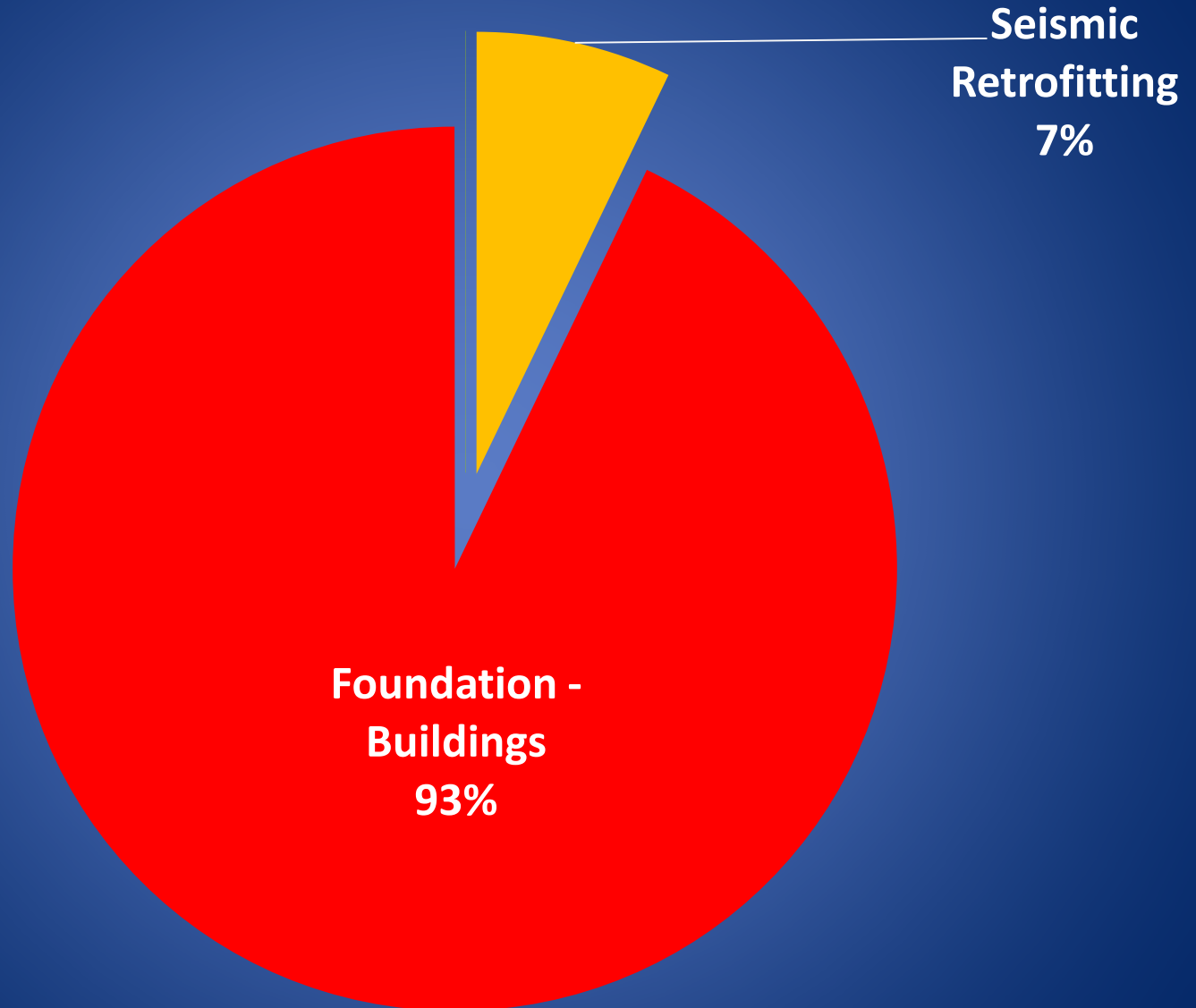


# Which Stage of the Product Life Cycle do Micropiles fall into Within Your Market?

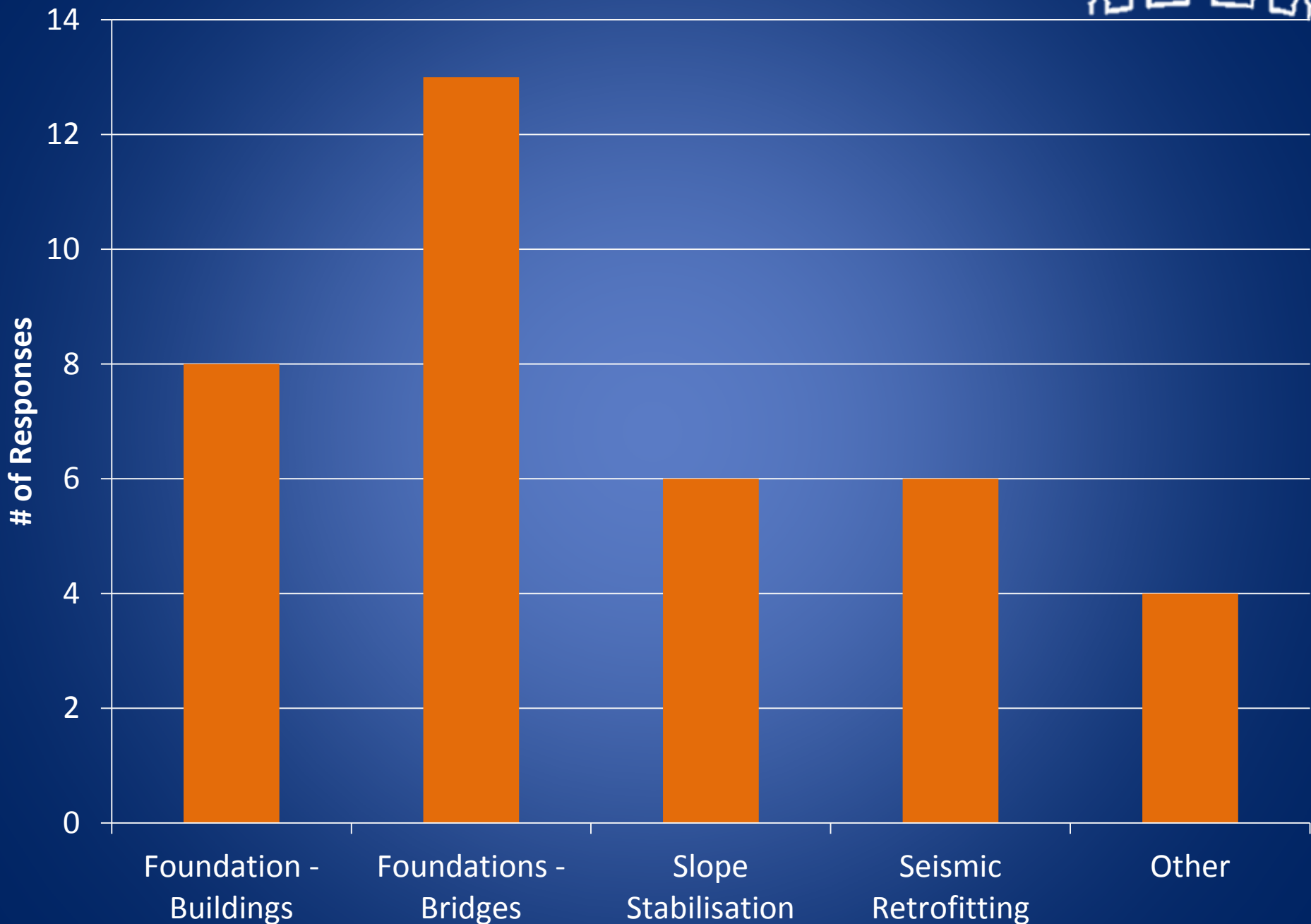




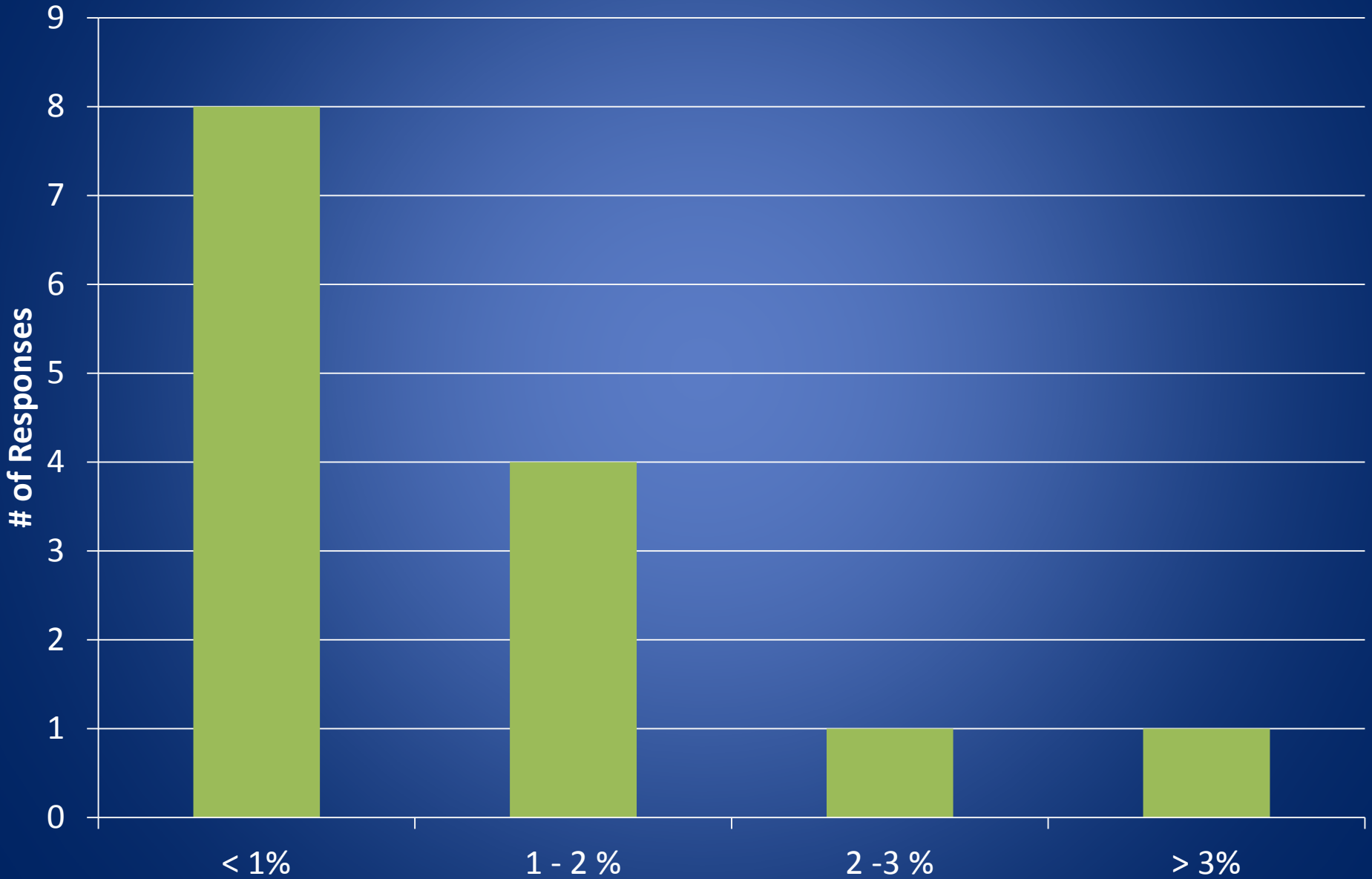
# Most Common Application of Micropiles



# Where are Micropiles Most Effective in Your Market?



# How Much does Your Company Fund/Support R&D for Micropiles Annually? (% of Revenue)





# Factors that Promoted Growth:



- ❖ More limited access jobs
- ❖ Previous Project Successes
- ❖ Improved technology
- ❖ Standards - awareness & acceptance



## Factors that Inhibited Growth:

- ❖ Lack of knowledge (micropile Mystique)
- ❖ Cost per KiloNewton
- ❖ Governments – Slow to adapt
- ❖ Structural engineers (Buckling – Ghost)



# Factors Affecting Price:

- ❖ Production Improvements
- ❖ Price of steel
- ❖ Competition
- ❖ Site location & access
- ❖ 80% said micropile prices are going down





## Growth? YES, because...

- ❖ As limited access jobs increase, MP jobs increase
- ❖ Seismic retrofitting & underpinning suited to MP
- ❖ Increased awareness
- ❖ Prices going down – 80%
- ❖ Continuing R&D and improvements
- ❖ Design code improvements/acceptance



# Knowledge Transfer

- ❖ Information easily available – 85%
- ❖ Trade organizations (ADSC, DFI, etc) -100%
- ❖ ISM helped with MP technology – 100%

# The Future







KNOWLEDGE

KOMMUNICATION

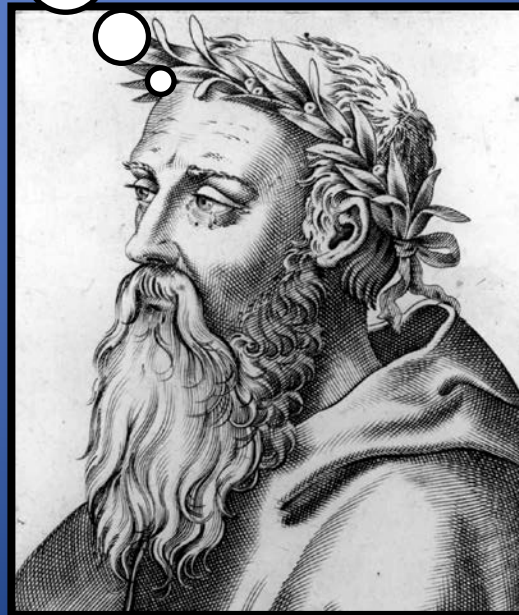
KULTUR

KAMARADERIE

# KNOWLEDGE



**Change is  
the only  
Constant**



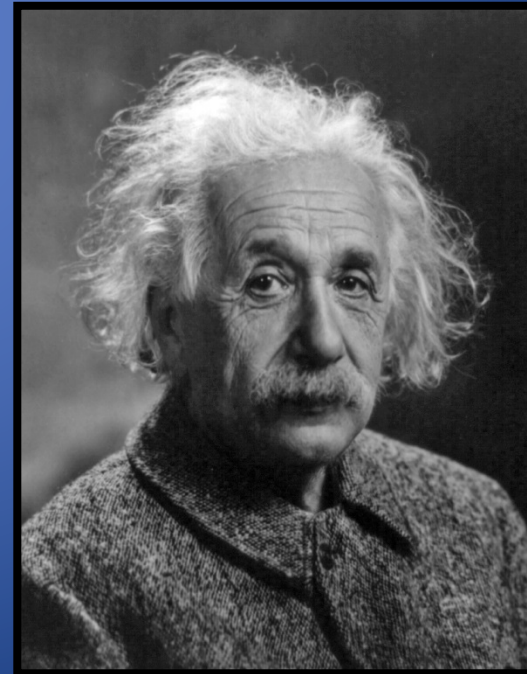
Heraclitus







“Imagination is Better than  
Knowledge says Einstein”





*“The Best Way to Predict  
The Future Is To Create It.”*

- Drucker



“There is an open future for Micropiles”

