



advanced
energy



BUILDINGENERGY Boston 2016

Success Through Quality Management

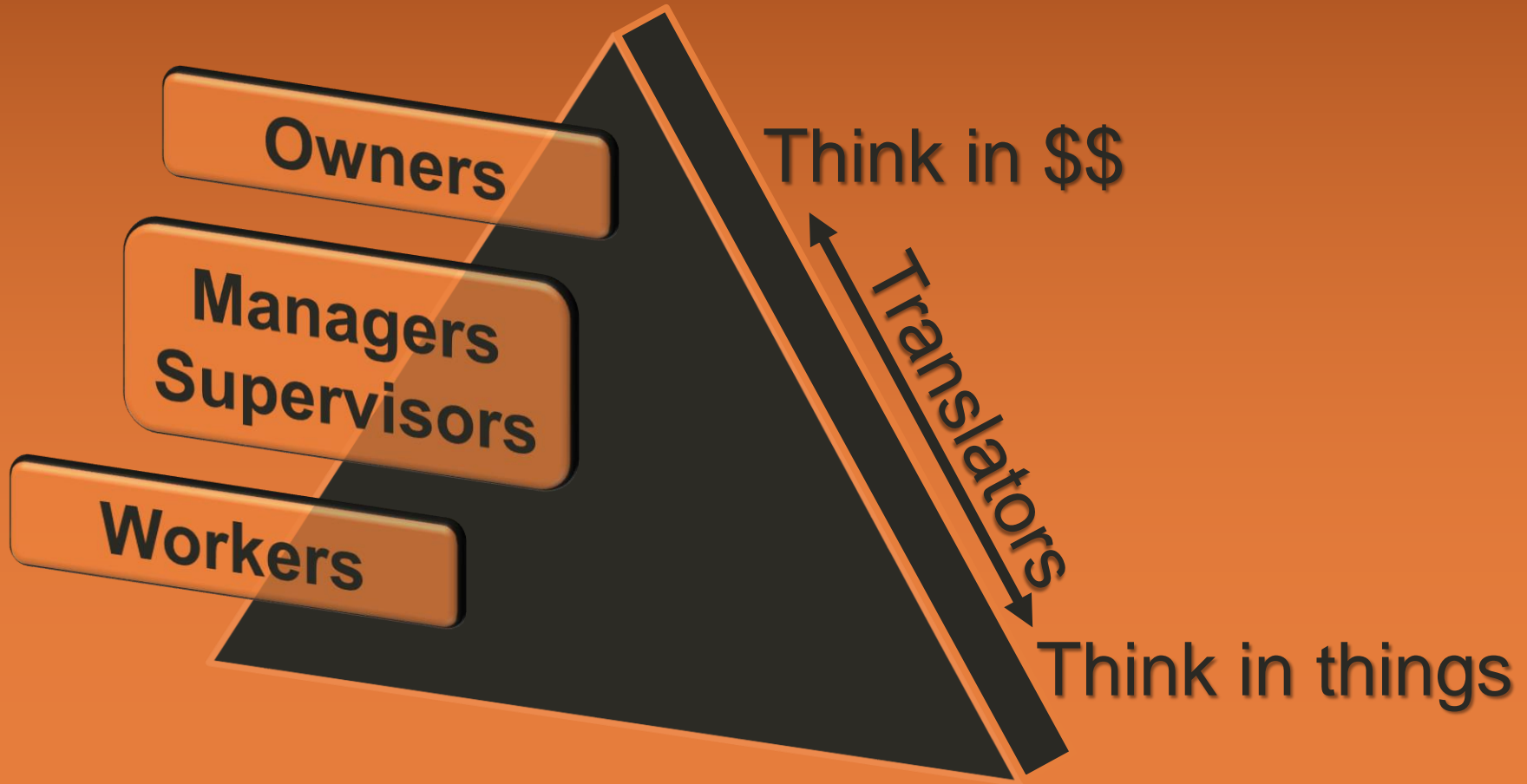
Building a Stronger Company

TRAINER: MR. JOHN TOOLEY, ADVANCED ENERGY

John Tooley is the recipient of the BPI's Tony Woods Award for Excellence in Advancing the Home Performance Industry and trains contractors throughout the United States. As a senior consultant for Advanced Energy he has spent more than 15 years helping the industry implement quality process management. "There's no one in our industry who has advanced the delivery of quality contracting to customers more than John," said Larry Zarker, BPI CEO.



Pyramid of Power



Agenda

- ✓ Creating a common language
- ✓ Offsetting the cost of high performance options, while increasing profit
- ✓ How to calculate the cost of inefficiency and poor quality to increase the bottom line
- ✓ Waste identification
- ✓ People – Performance - Profit

Quality Requires System Thinking

A system is a whole that derives its characteristics (good or bad) from the interactions of its essential parts.....and none taken separately.



All are essential, none are sufficient

Quality Is a System

Quality is system (whole) that derives its characteristics (good or bad) **from the interactions** of its essential parts.....and none taken separately.

Quality Management

3. Quality Improvement



1. Quality Control

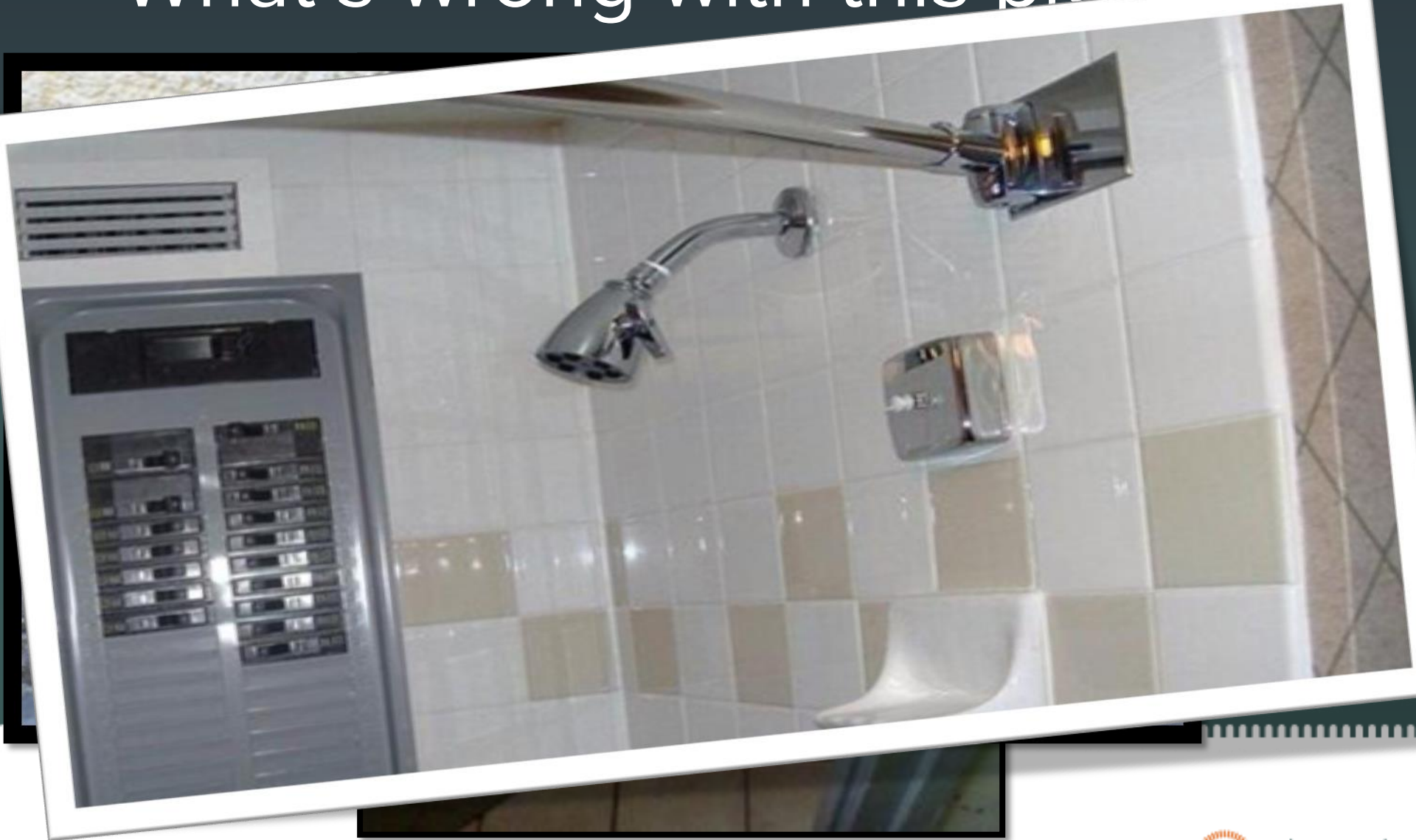
2. Quality Assurance

All are essential, none are sufficient

Four Ways to Do Work



What's wrong with this picture?





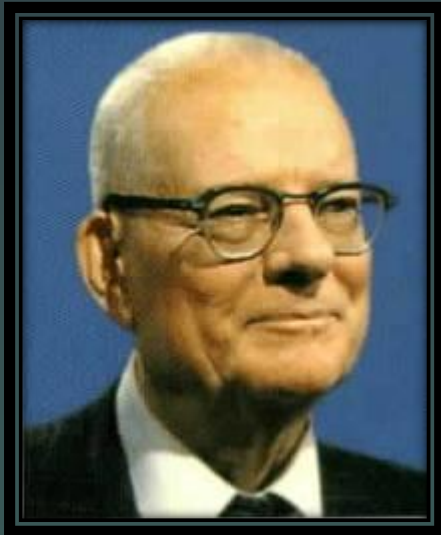


**Close is not
good enough**

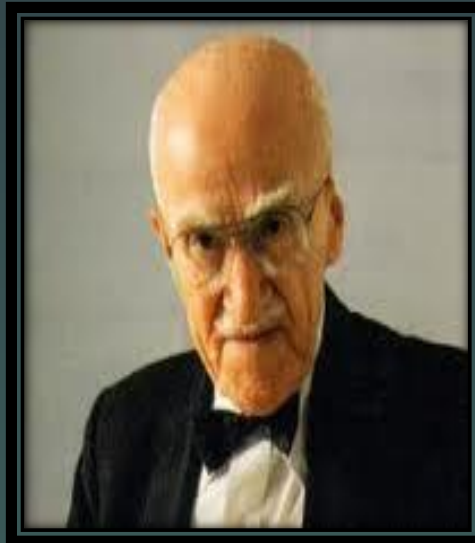




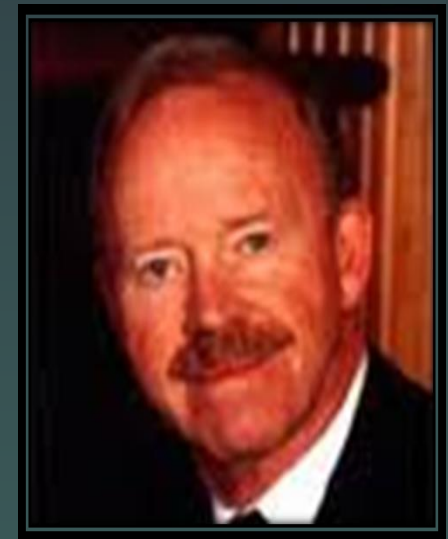
3 Quality Greats



W. Edwards Deming



Joseph Juran



Philip Crosby

Three Important Facts

1

“Do it right the first time.”

Dr W. Edwards Deming



Three Important Facts

2 "Inspection with the aim of finding the bad ones and throwing them out is too late, ineffective, costly. Quality comes not from inspection but from improvement of the **process**."

Dr. W. Edwards Deming



Three Important Facts

3

“Fear must be driven out of the workplace”

Dr. W. Edwards Deming



Essential Parts of a More Profitable Company

- Clear requirements, standards, code, policies, procedures
- Focus is on process
- Culture is prevention
- Measurement of quality is the cost of poor quality and inefficiency \$\$

***All are Essential
None are Sufficient***

Taken separately none will
produce a more profitable
company

We need to see things differently



COMMON LANGUAGE
THE MUNKEN AGENDA

Language is key
to knowledge.
Knowledge is key
to understanding.
Understanding
is key to finding a
common language.



Common Language



What is quality?



WHAT IS QUALITY

Quality is doing
agreed upon
requirements and
standards

Either you did or
your did not

Not high quality,
not low quality, not
good quality, not
bad quality

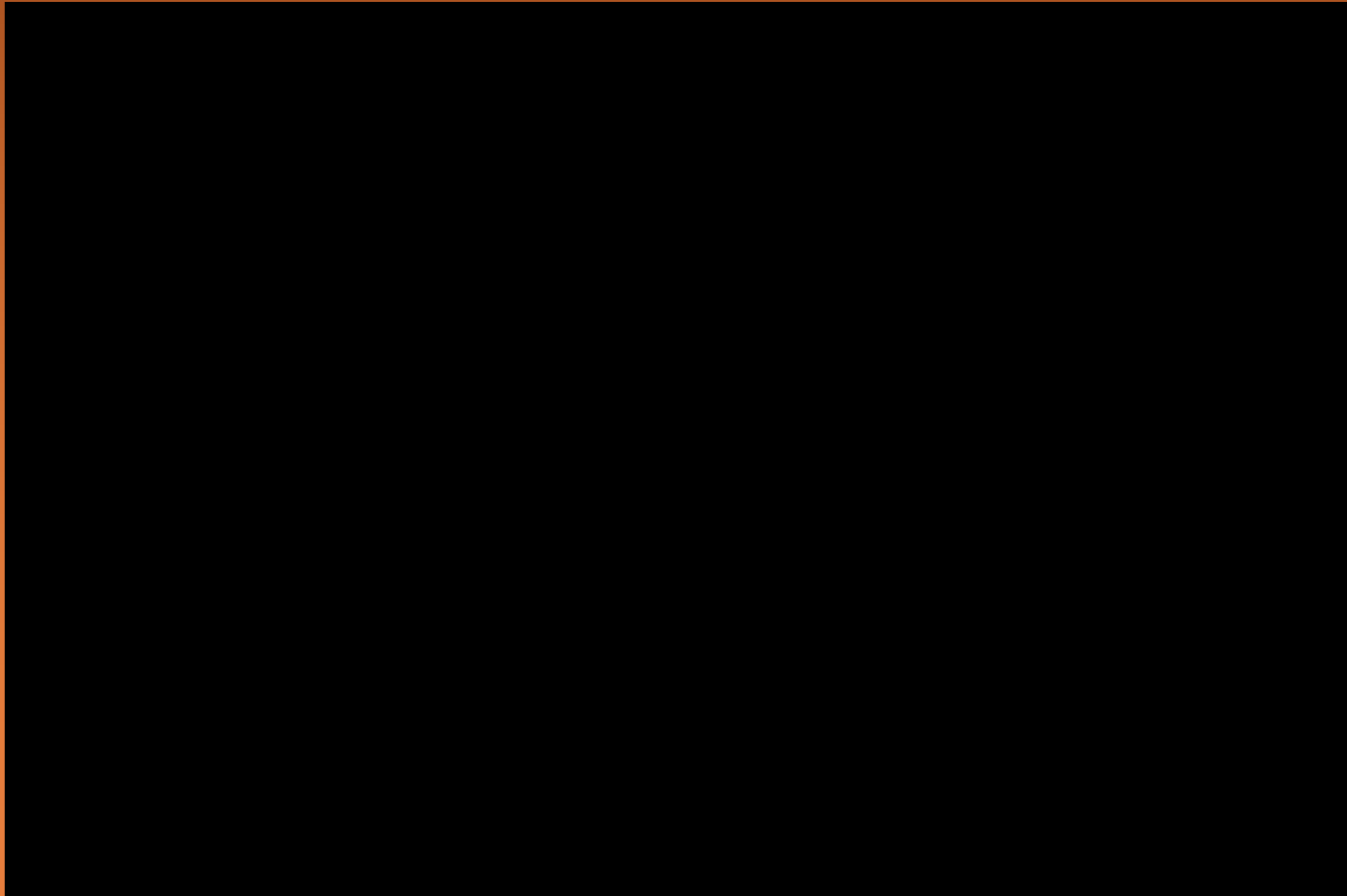
Creating A Quality Culture- Common Language



Sincerity Is Never Enough



Sincerity Is Never Enough



Quality is About...

PEOPLE

PERFORMANCE

PROFIT



Internal & External

Effective & Efficient

ROI

PEOPLE



Internal & External

PATH TO SUSTAINABLE PROFIT

Respect and Honor Each:

- Employees
- Customers
- Funders
- Trade Allies
- Suppliers



ATTENTION!

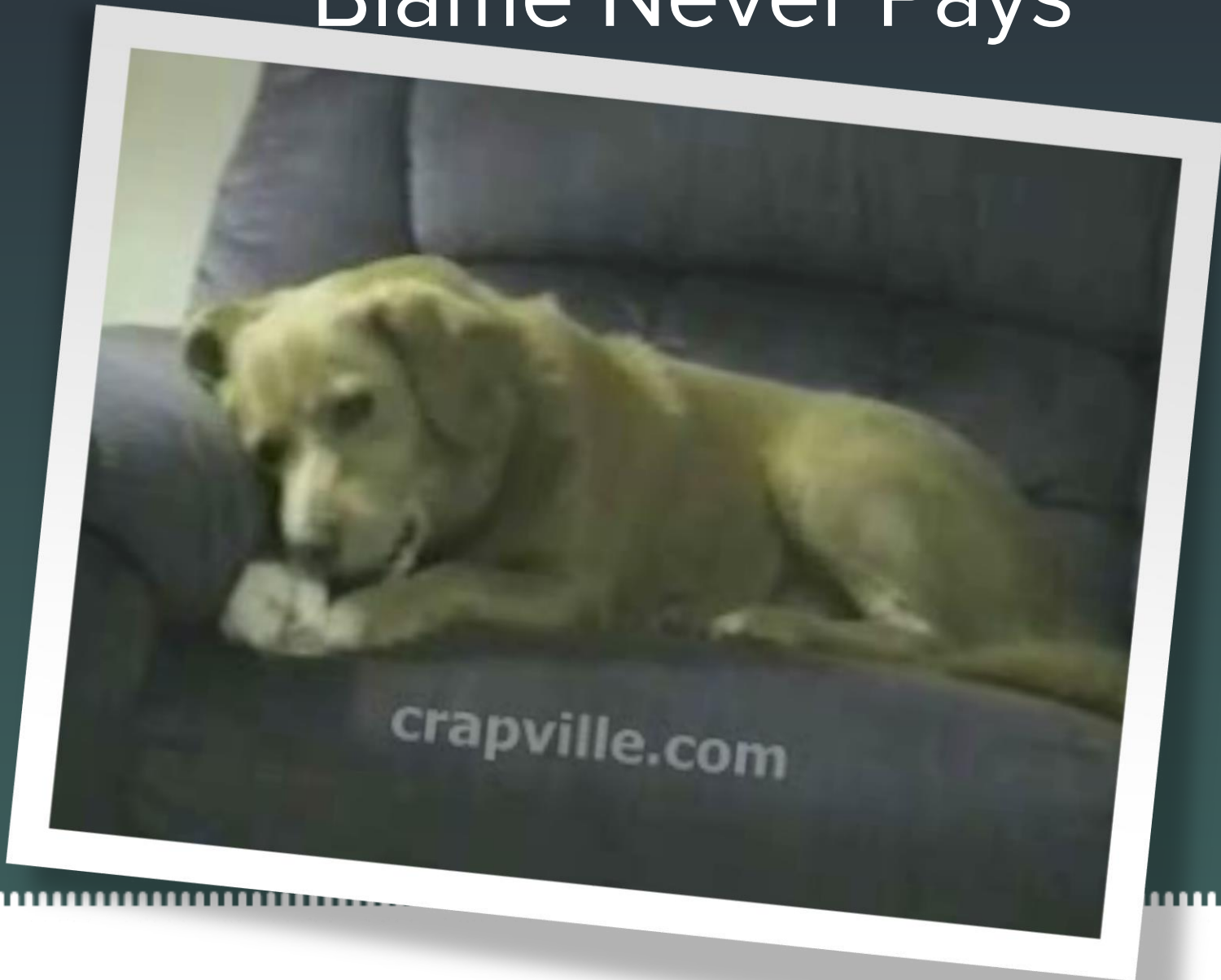
**ALL
WORK IS
A
PROCESS**

- Process fails more than people
- Blame should fall on the process not people
- All defects are caused, all causes can be prevented

A close-up photograph of two hands, one from the top and one from the bottom, both pointing their index fingers towards each other. The hands are wearing white shirts with blue stripes at the cuffs and dark suits. The background is a solid, dark red color. A white horizontal bar with green text is centered across the image.

A Quality Culture Must Be Free of Blame

Blame Never Pays



“We must drive fear out of the workplace.”



W. Edwards Deming

Fourteen Obligations of
Management, point 8

“Quality is
impossible if
people are
afraid to tell
the truth.”



Joseph Juran

Juran's Quality Handbook, Freedom From Fear, pg., 15.5

“Creating a strategic plan that is customer-focused requires that leaders become coaches and teachers, personally involved, consistent, **eliminate the atmosphere of blame**, and make their decisions on the best available data.”

- Juran (1988)

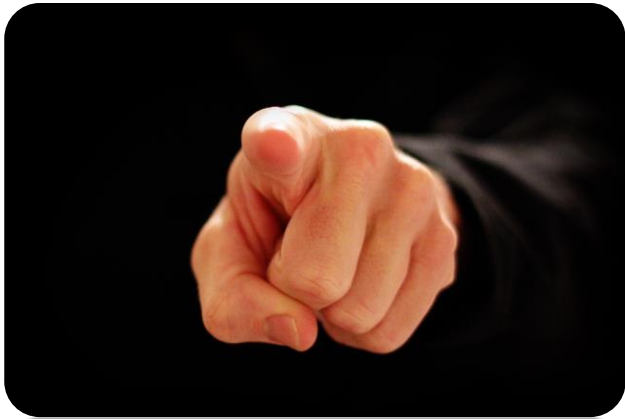


Philip Crosby

Quality Without Tears

“To blame
another for a
nonconformance
problem is naive
at best.”

**Blame Falls on
people when...**



Wrong doing is done
with -

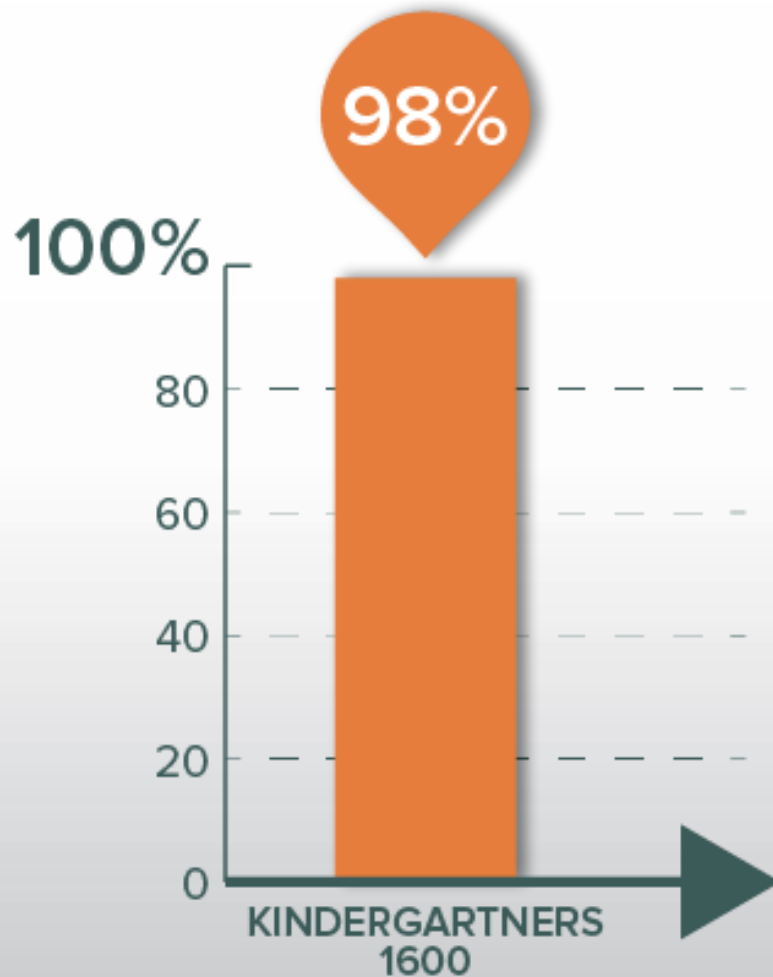
intention

Innovative Thinking

- NASA needed world class employees, we were behind in the space race.
- Can we develop a test to measure who was a world class innovator?
- The test was given to 1,600 Kindergarteners
- What percentage were world class?

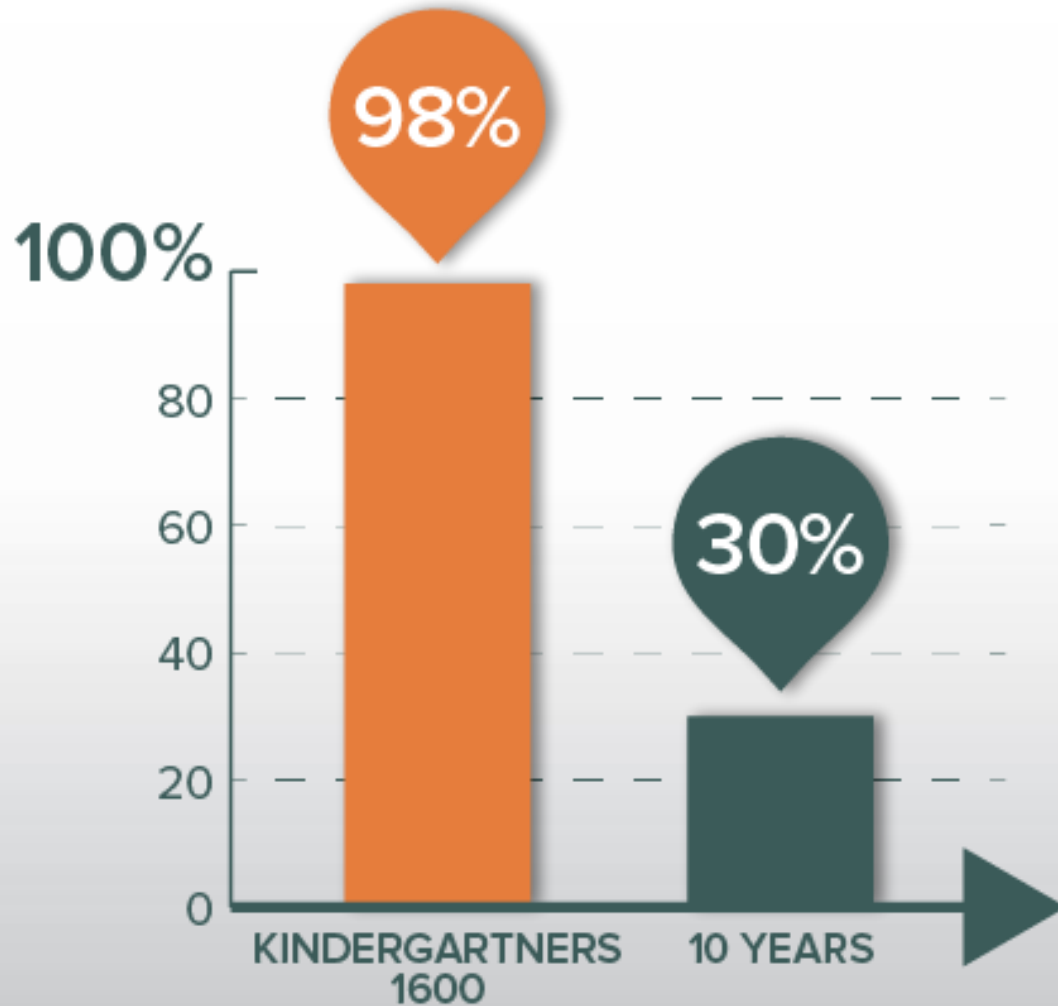
World Class Innovators

NASA TEST



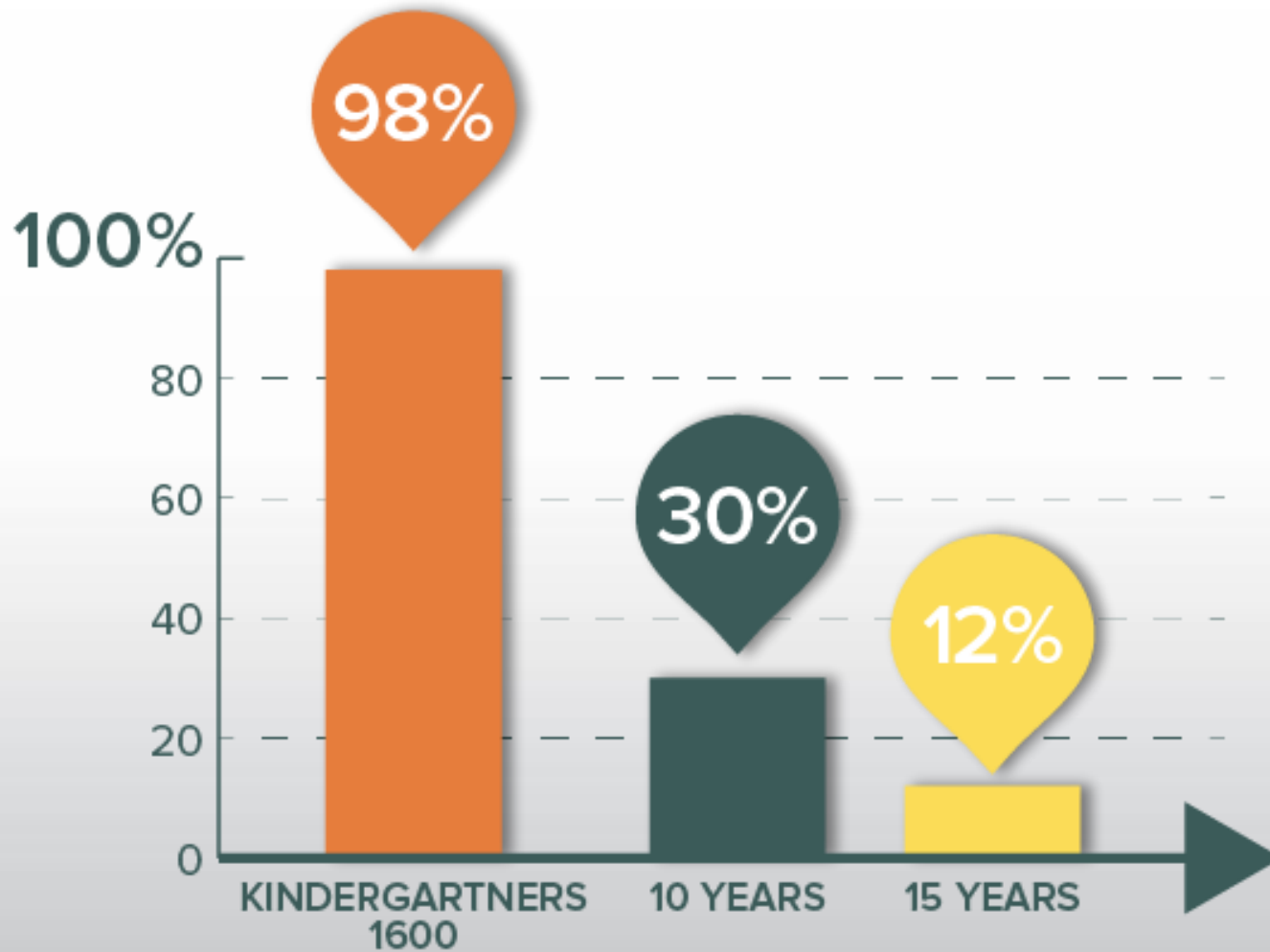
World Class Innovators

NASA TEST



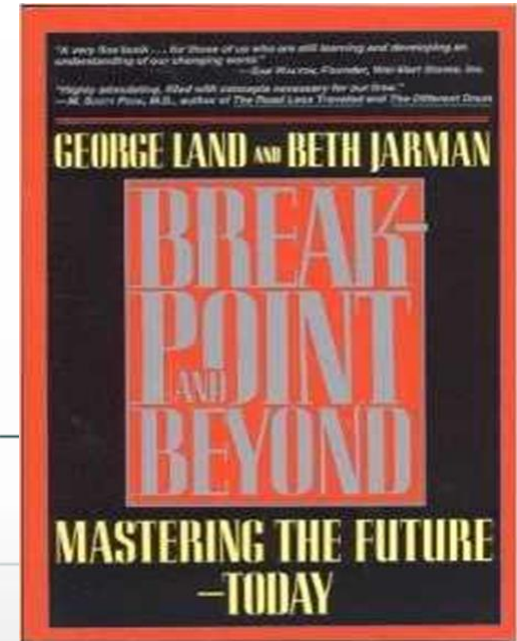
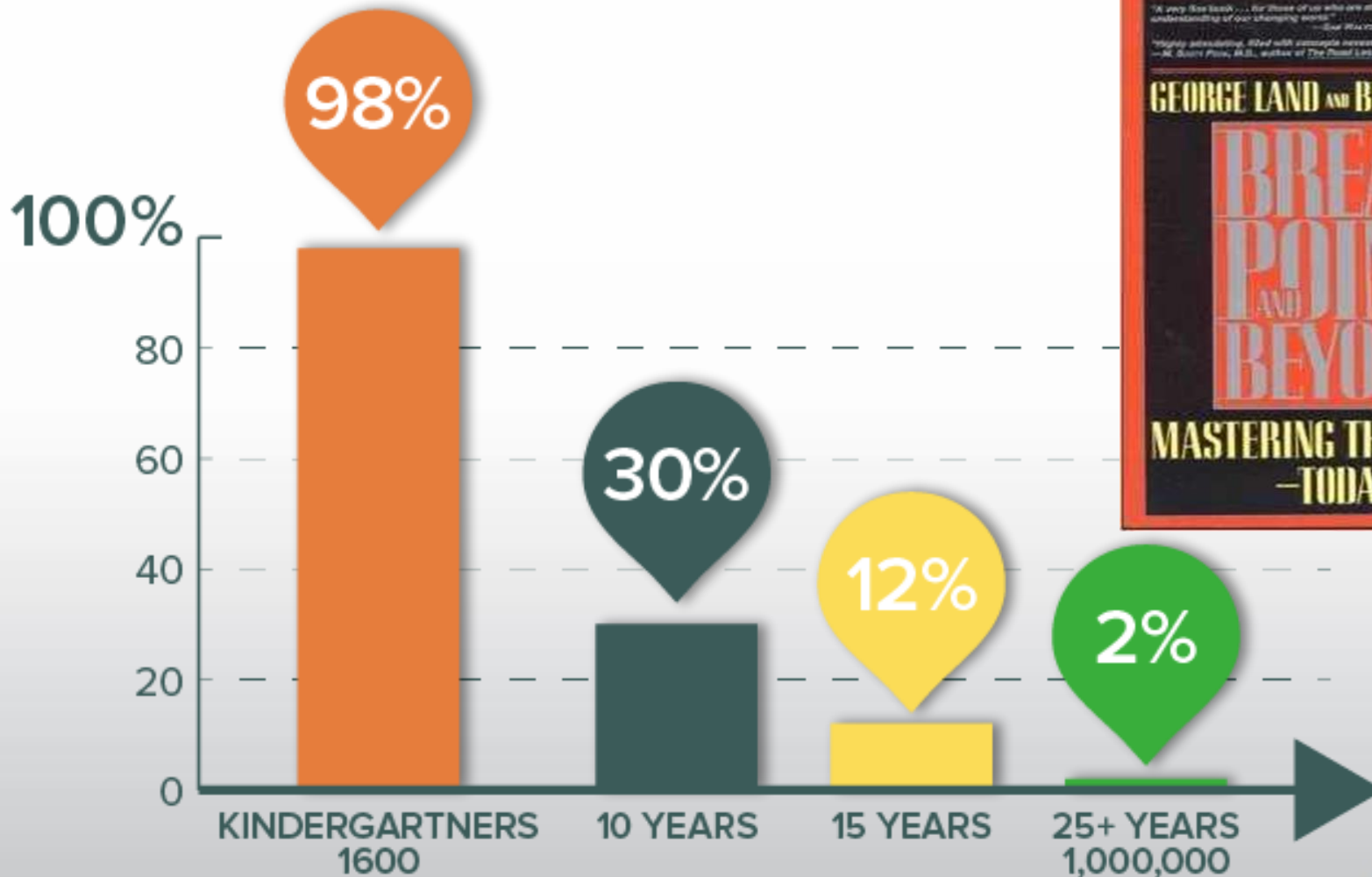
World Class Innovators

NASA TEST



World Class Innovators

NASA TEST





A WORKPLACE WITH BLAME

- Drives out honesty
- Drives out improvement
- Stifles learning
- Drives out innovation

What part of the scope don't they understand?

Fry Day
(out)

VER 1.2

Quality is About...

PEOPLE

PERFORMANCE

PROFIT



Internal & External

Effective & Efficient

ROI

Quality Interactions

Process converts input into output

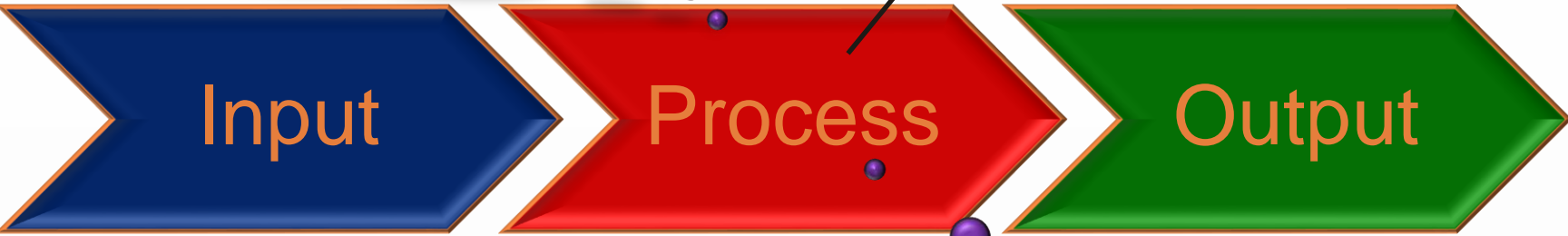


Interactions

EFFECTIVENESS OF PROCESS
Ability to achieve desired outcome

CONTROL
Reducing Variation

**BUILD QUALITY IN
DON'T BOLT IT ON**



- *Clear Scopes, Requirements, & Standards
- *People
- *Tools
- *Materials

- *Standardized Training
- *Standardized Work
- *Mistake Proofing
- *Critical details

Meets Standards and desired outcome is

EFFICIENCY OF PROCESS
Results achieved vs. resources used



QUALITY ASSURANCE

Monitoring, Measuring and Building Confidence

Toyota HR Management

INPUT

PROCESS

OUTPUT



Quality is About...

PEOPLE

PERFORMANCE

PROFIT



Internal & External

Effective & Efficient

ROI

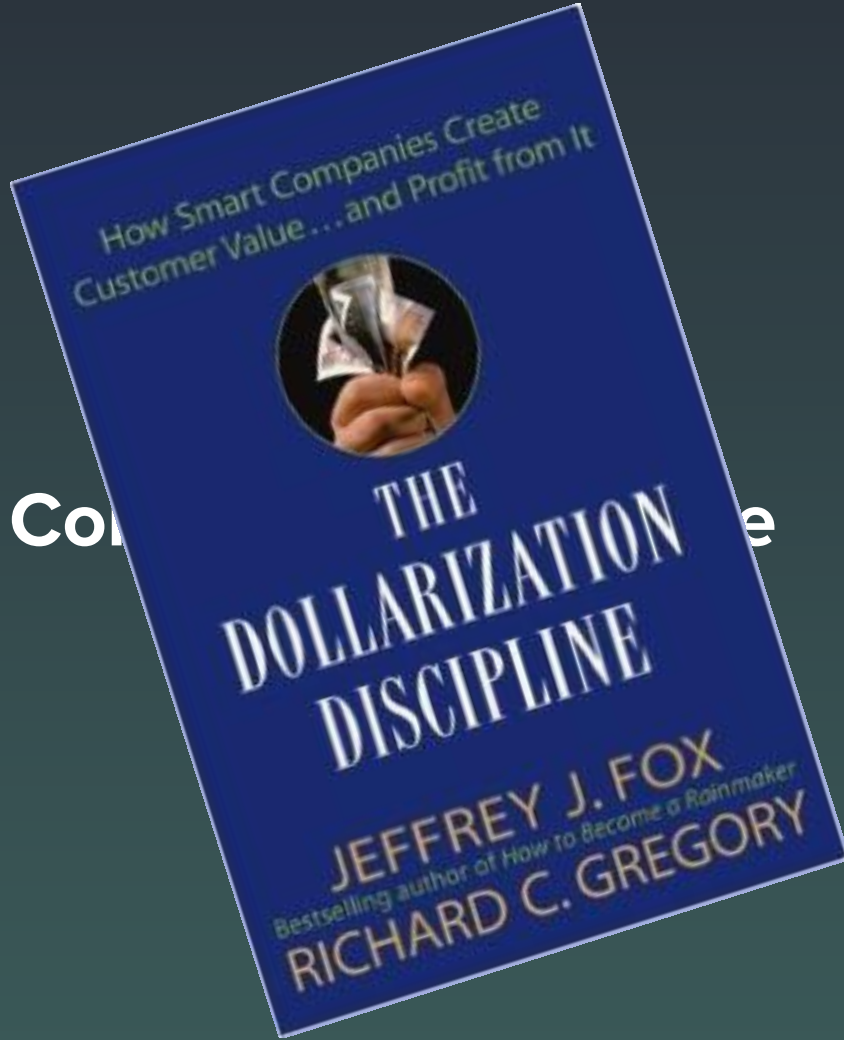
How can we offset the cost of quality and performance?

Consumer Cost Per Housing Type Per Month



■ Code ■ Energy Star ■ Net Zero Ready

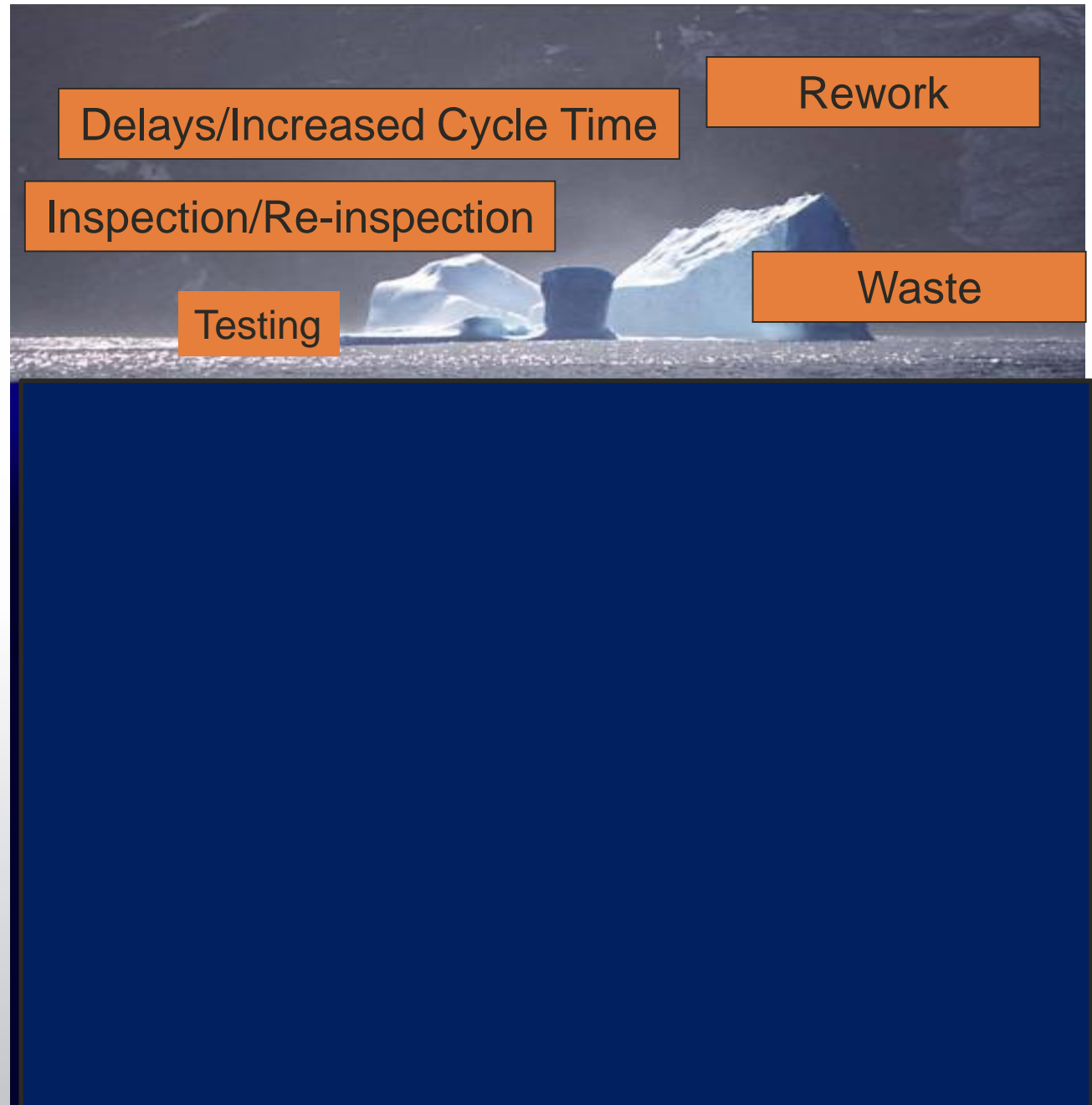
Company



What does it cost?



The obvious and “visible” costs are a small portion of the overall cost



The bottom of the iceberg represents the majority of the cost and are not easily identified and measured.

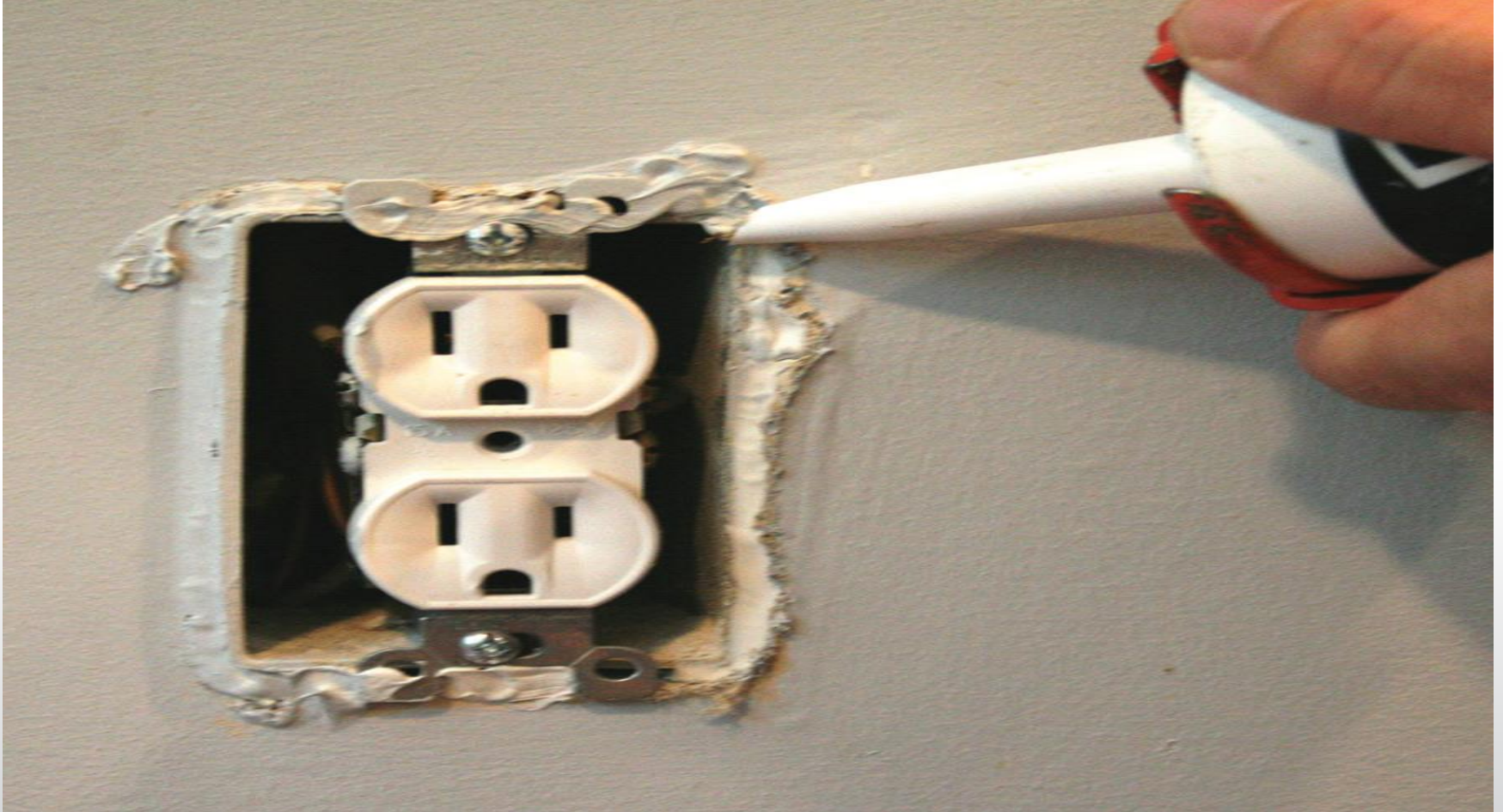
What does a hamburger cost?



What does a gallon of regular gas cost?



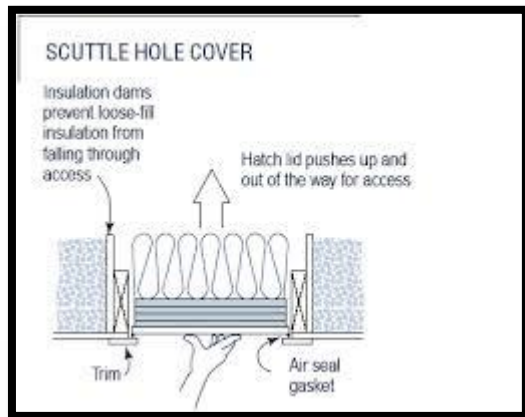
What does a tube of latex caulk cost?



What does a bucket of mastic cost?



What does it cost to go back and fix attic hatch weather-stripping done improperly?



What is the level of our quality?

- The level of quality of any company is its acceptance to non-conformance to requirements, standards and codes, etc.
- What is the Cost of Poor Quality (COPQ) or inefficiency?
- Quality is measured in money

"The cost of poor quality consists of all costs that would disappear if there were no deficiencies."

J.M. Juran

How much does it cost?



STEP 1 Name Cost Areas of Doing Business



Calculate The Cost of Poor Quality (COPQ) or Inefficiency

STEP 2



You can get the spreadsheets free at...

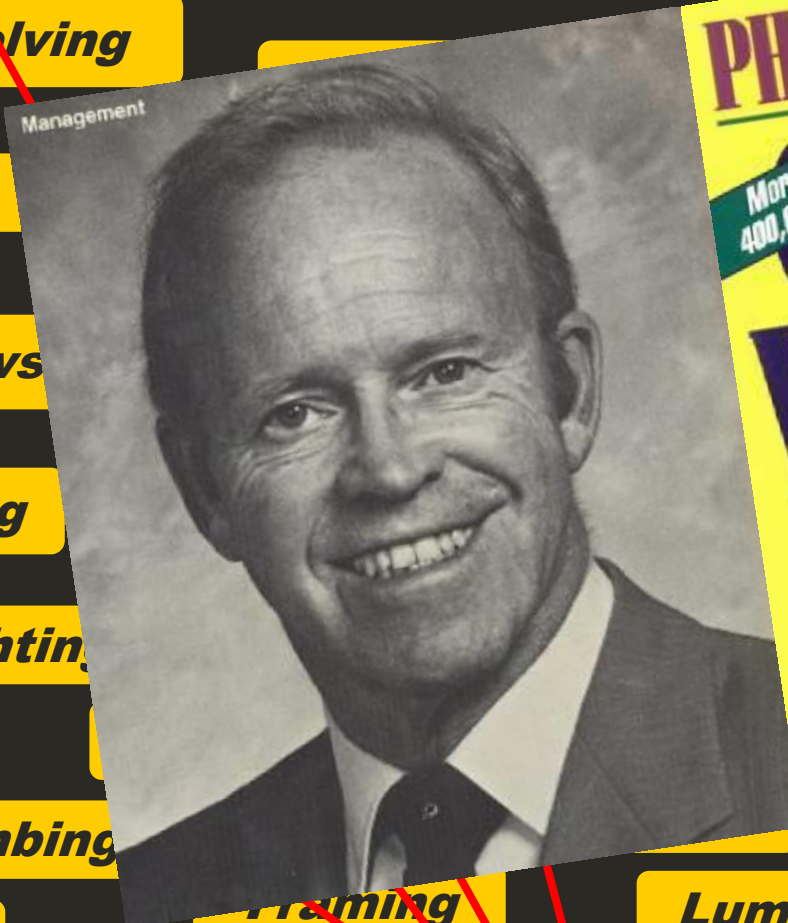
[www.advancedenergy.org/success
_with_quality_management](http://www.advancedenergy.org/success_with_quality_management)

Paint

Landscape

Shelving

Management



PHILIP B. CROSBY
Author of the best-selling
Quality Is Free

More than
400,000 sold

QUALITY WITHOUT TEARS

The Art of
Hassle-Free Management

14 Steps to "Zero-Defect" Improvement
From "The Leading Evangelist of Quality
in the U.S."—Time



Windows

Roofing

Lighting

Plumbing

Framing

Lumber

Drywall

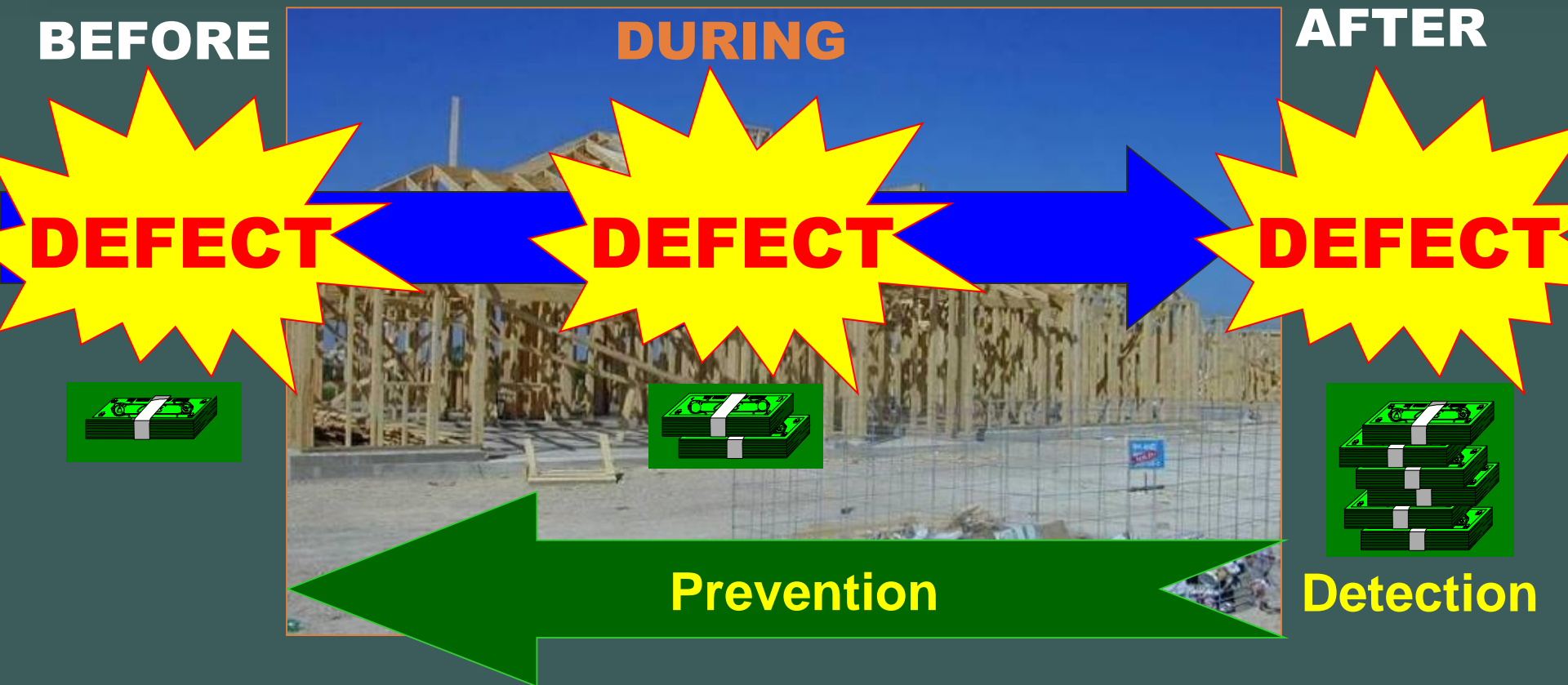
Trim

Doors

_____ reworks, _____ % houses (100) = _____ Reworks

\$ _____

A Sustainable Process Must Be Founded On Defect Prevention



Three Types Of Inspection

Advantages to Cost Control

- Improves profits
- Improves financial position
- Improves competitive capabilities
- Serves as an index of efficiency
- Company serves as a trend setter for other companies
- Efficient utilization of scarce resources

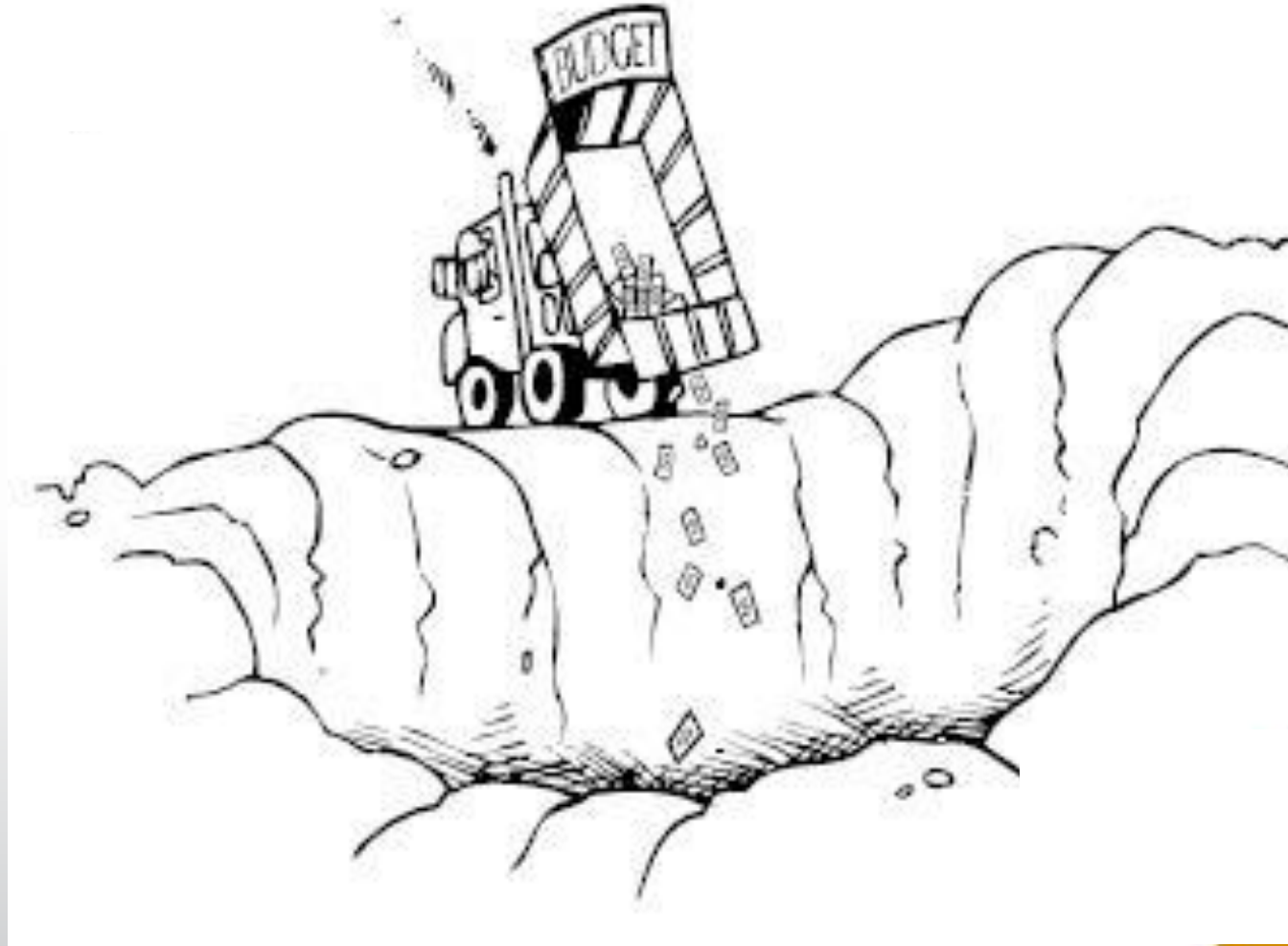
Cost Control and Waste

Waste: Anything that consumes resources and does not add value to the end product



1. *Processing* - Scope **variation**
2. *Rework* - Any repair
3. *Transport* – People, materials
4. ***Waiting* - Waiting on material or people**
5. *Waste* - Time, materials
6. *Intellect* - Failure to fully utilize the time and talents of people

We must stop wasting money



A Sustainable Process Must Eliminate Complexity/Waste



Mistakes

Rework

Delays

Waste

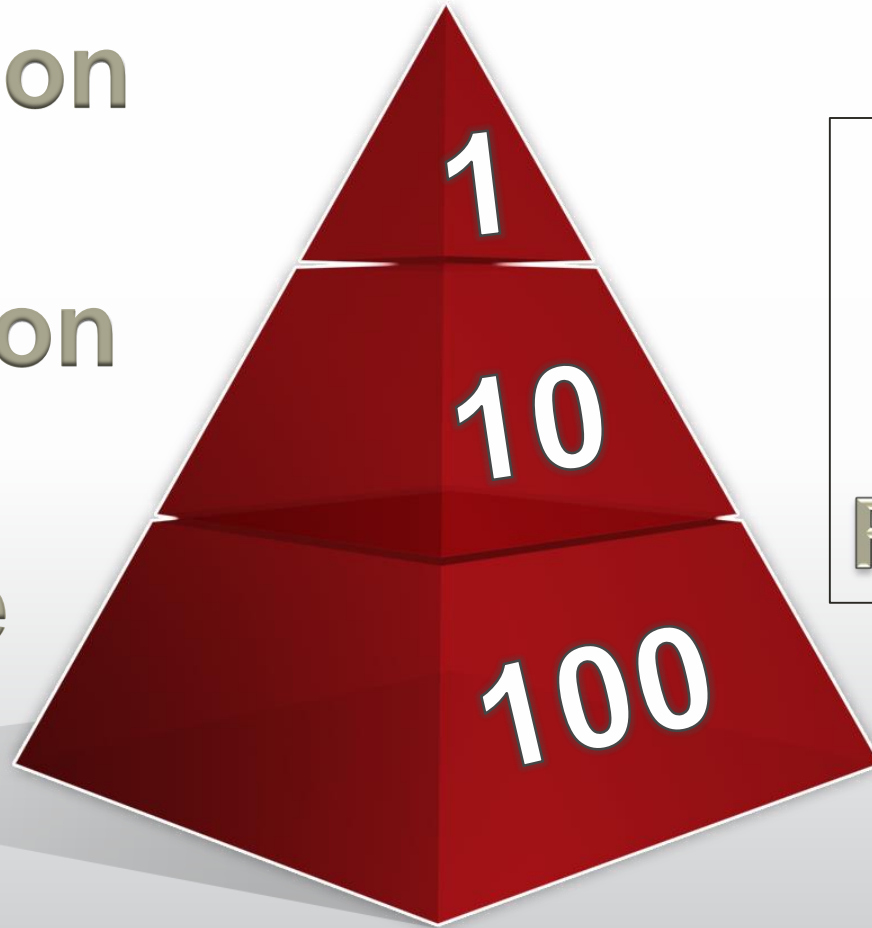
Inefficiencies

Variations



\$1.00 Spent on Prevention Saves

- Prevention Cost
- Correction Cost
- Failure Cost



ANGRY HOMEOWNERS = LOSS



LOYALTY



“ If you lock your best friend and your dog in a trunk for 2 hours, which will be happy to see you, when you open the trunk? ”

One is the function of another

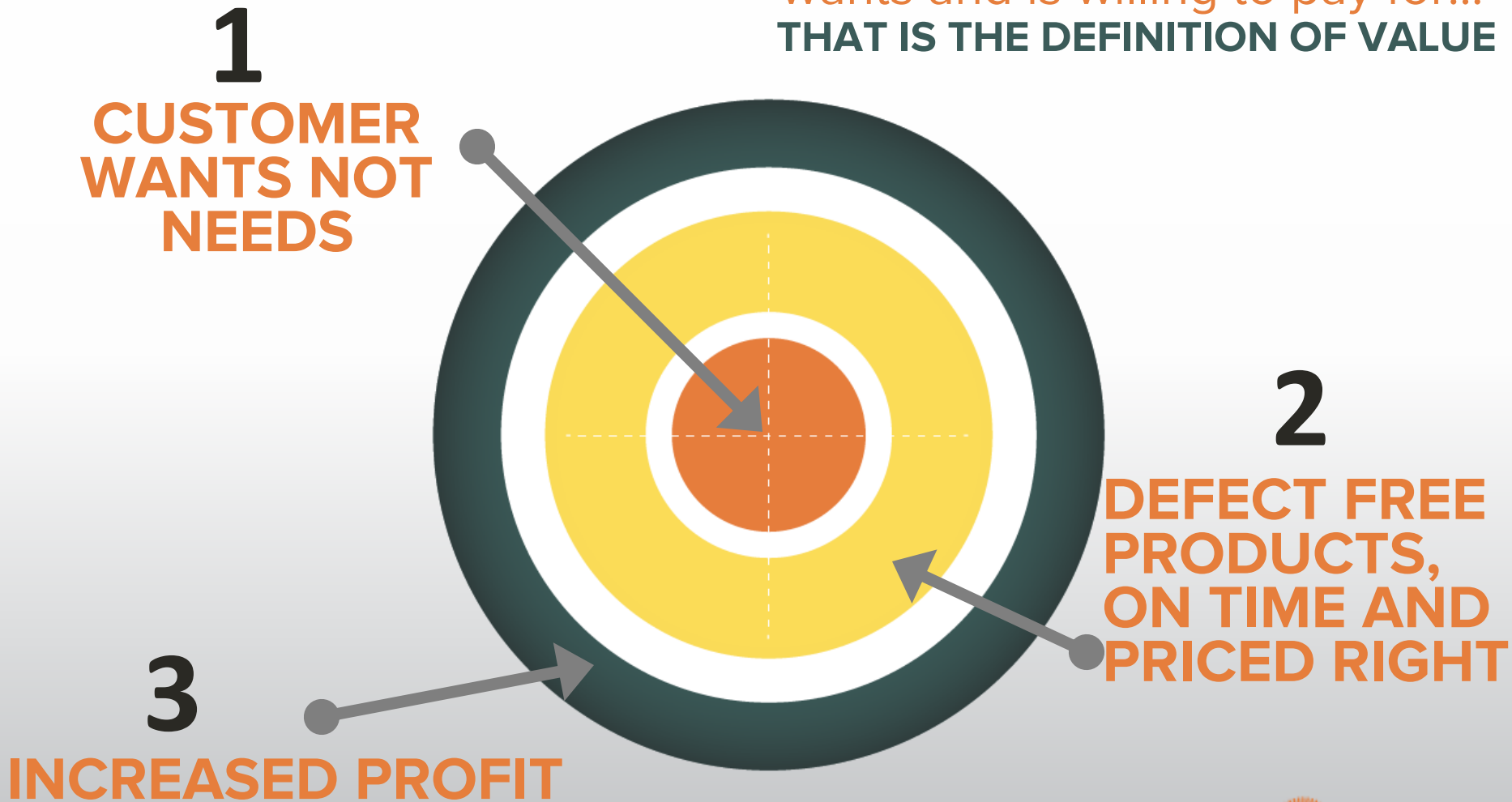
“Companies can’t give job security, only customers can.”

- Jack Walsh



DNA of Building a More Profitable Company

Delivering what the customer wants and is willing to pay for...
THAT IS THE DEFINITION OF VALUE



Thank You

16 Attributes of a Quality Company

1. A company that has a clear set of standards, policies and procedures (hereafter called requirements). They know that all ambiguity must be removed; they believe work is either done right or wrong. They believe that there cannot be good quality or poor quality, nor high quality or low quality.
2. A company that holds requirements as the plumb line for training, inspection (QC and QA) and process improvement.
3. A company that has a common language.
4. A company that knows and conveys the cost of nonconformance to requirements. They know that where there is no understanding of what nonconformance costs they will have very little conformance.
5. The company measures the cost of nonconformance as the measurement of quality.
6. The company that knows that if they are centered on motivation by carrots or sticks it is destined to be a company that is not sustainable.
7. A company that holds contractors responsible for their own quality.
8. A company that has an attitude of zero defects. They know good enough is not good enough.
9. A company that has a process Improvement focused on prevention of defects and has it as a center point of the company.
10. A company that is stern and has an attitude of zero defects.
11. A company that is willing and dedicated to process improvement as the only path to acceptance.
12. A company that seeks prevention of defects more than detection.
13. A company that knows that to focus on detection of defects and not improvement of processes is doomed to constant failure.
14. A company that knows that to obtain quality through inspection has a fate of increased cost.

Other inspections a good company knows should be avoided

- a. To inspect a process without the objective being prevention of defects
 - b. To inspect and then blame workers for process problem that are beyond their control
 - c. To inspect and try to improve a process that produces the wrong outcome
 - d. To inspect a flawed process expecting quality
15. A company that understands that it must seek the root cause of all problems.
 16. A company that understands how to judge intention and how to take proper actions when considering defect, and dissatisfaction of customers and deceitful behavior.