

# Moving from Research to Specification

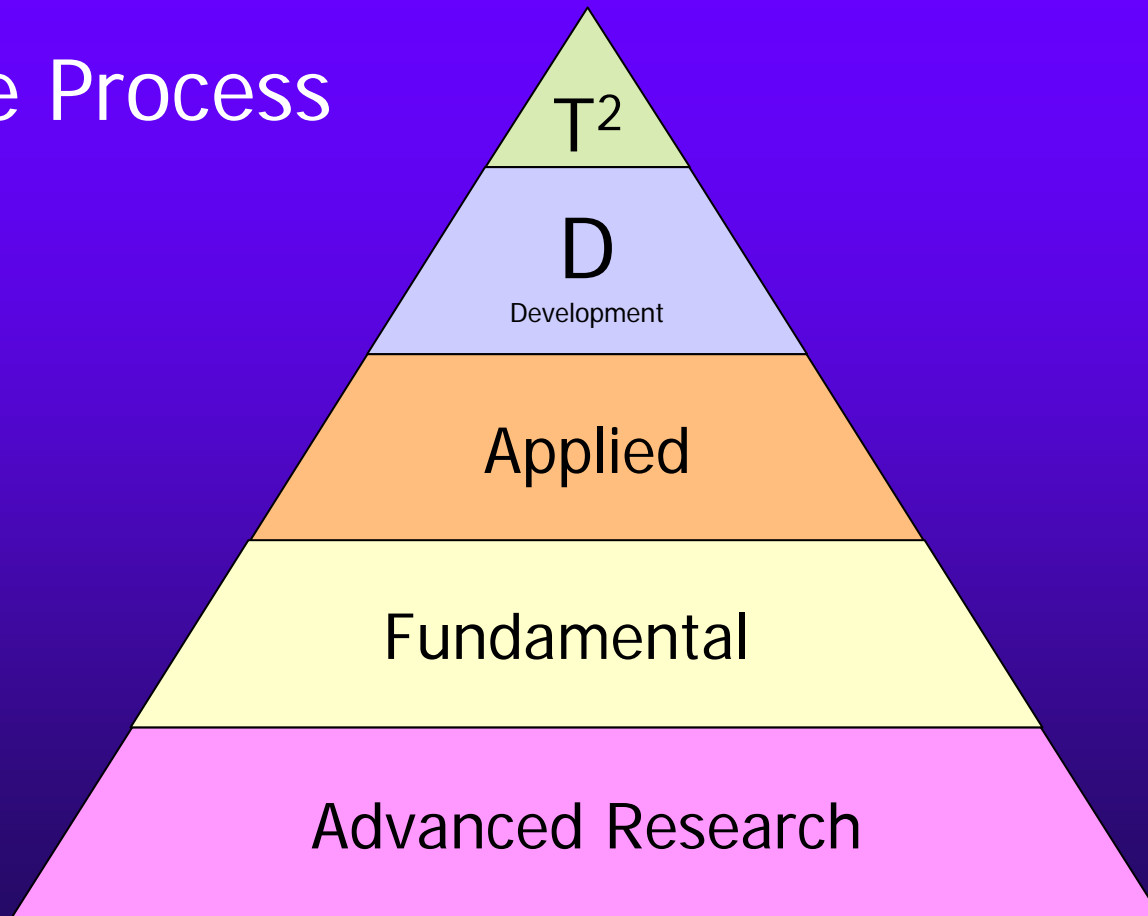
John D'Angelo

FHWA

Pavement Performance Prediction  
Symposium 2005



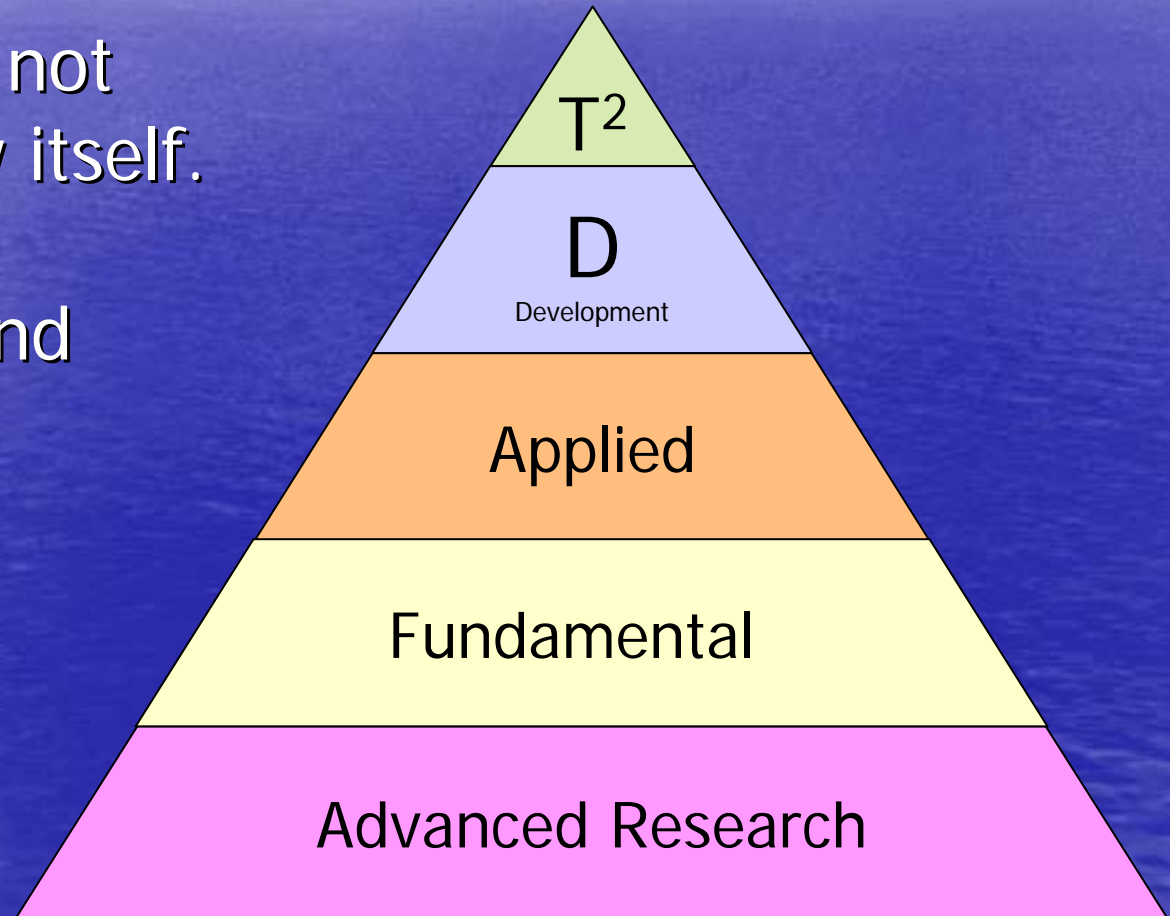
# The Process



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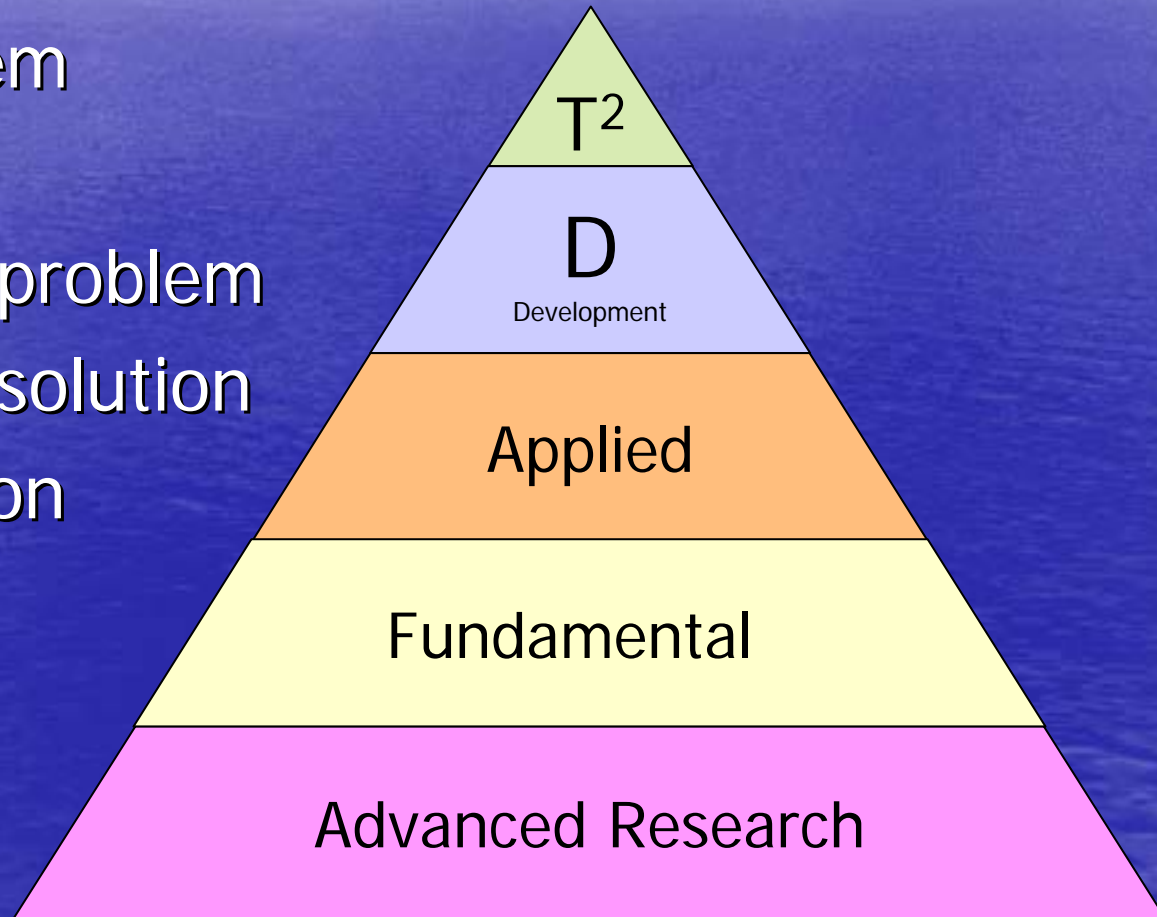
- A process does not move efforts by itself. It takes careful consideration and much care and attention.



# Process



- Identify the problem
- Develop a solution
- Communicate the problem
- Communicate the solution
- Validate the solution
- Make adjustments
- Specification





# Innovation!



# The key is identifying the problem.

- Is the rock too large?
- Is the truck too small?



# If the rock is too Large



# If the truck is too small





# Communication!



Getting the industry to realize it has  
a problem.



# Development of the answer to the problem



Convince the industry that you have the right answer to the problem.



# Validation

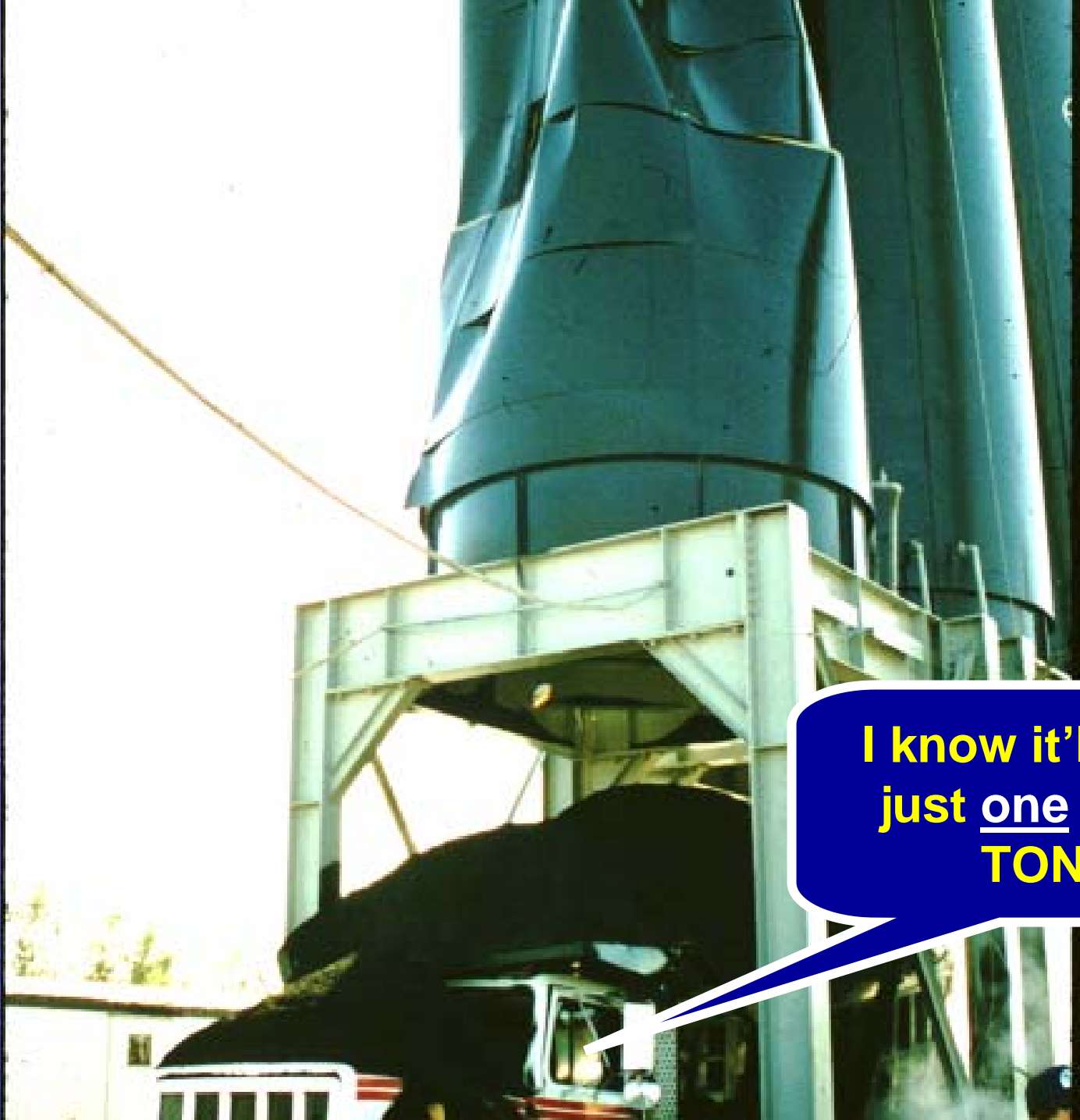


A photograph of an industrial facility, possibly a power plant or refinery. A large, dark plume of smoke or steam rises from a tall chimney on the left side of the frame. In the center and right, there are several large, cylindrical industrial structures, some of which are emitting thick white steam or smoke. The sky is a pale, overcast blue. The overall scene conveys a sense of industrial activity and environmental impact.

**Not Every Day is a Good Day!**

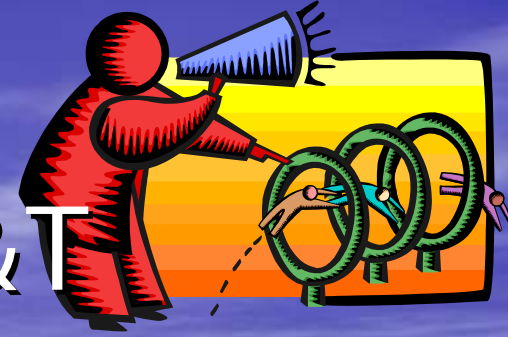


Or even half good



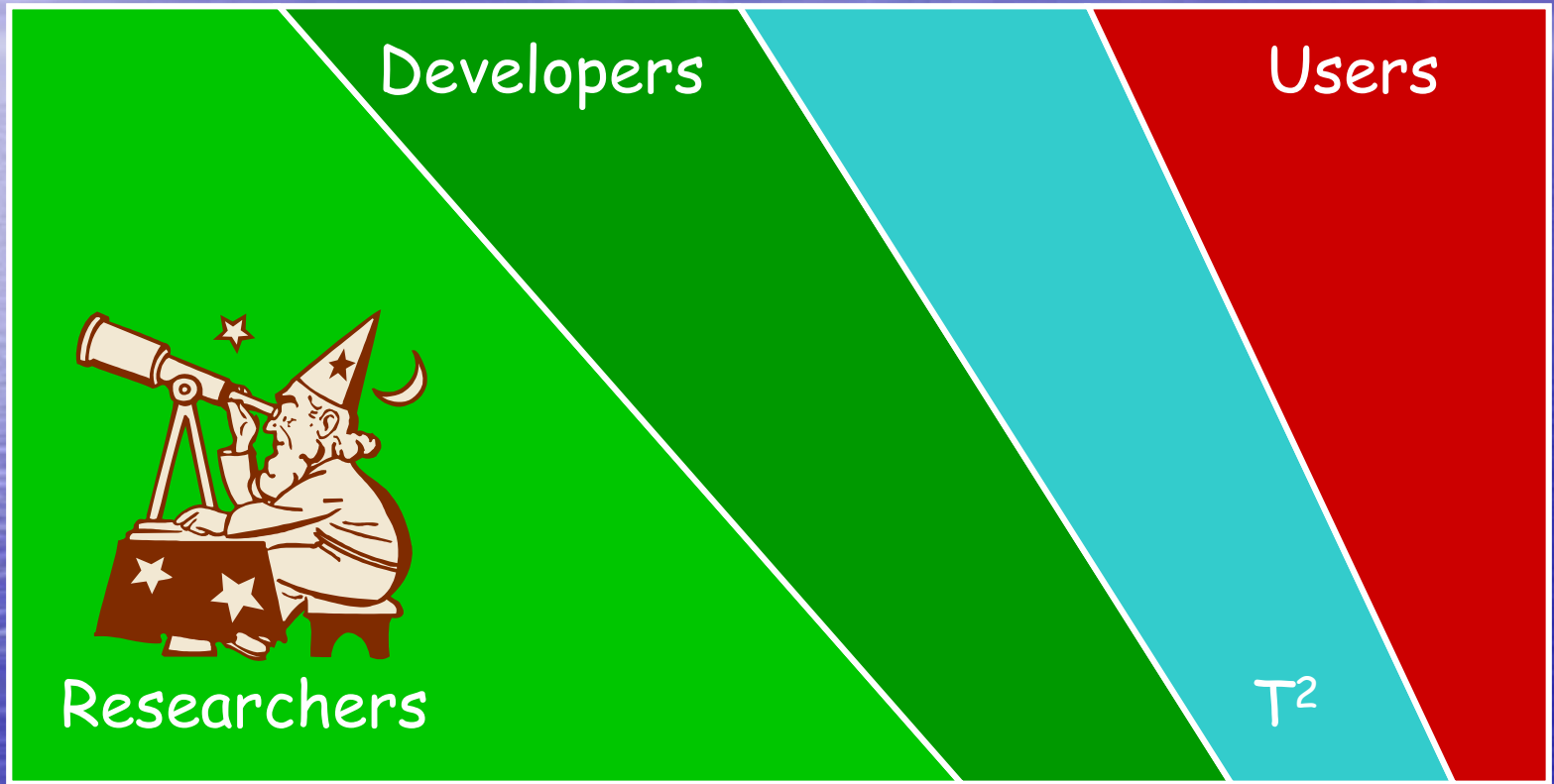
I know it'll hold  
just one more  
**TON!**

# Innovation Clear Roles in RD&T



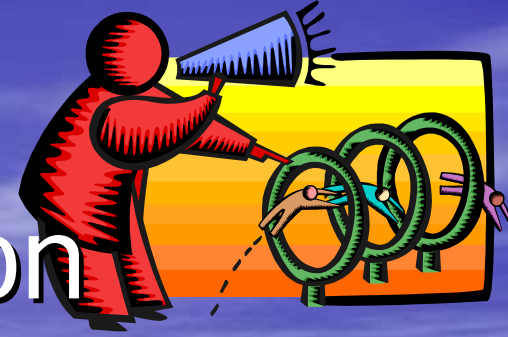
100%

Zero



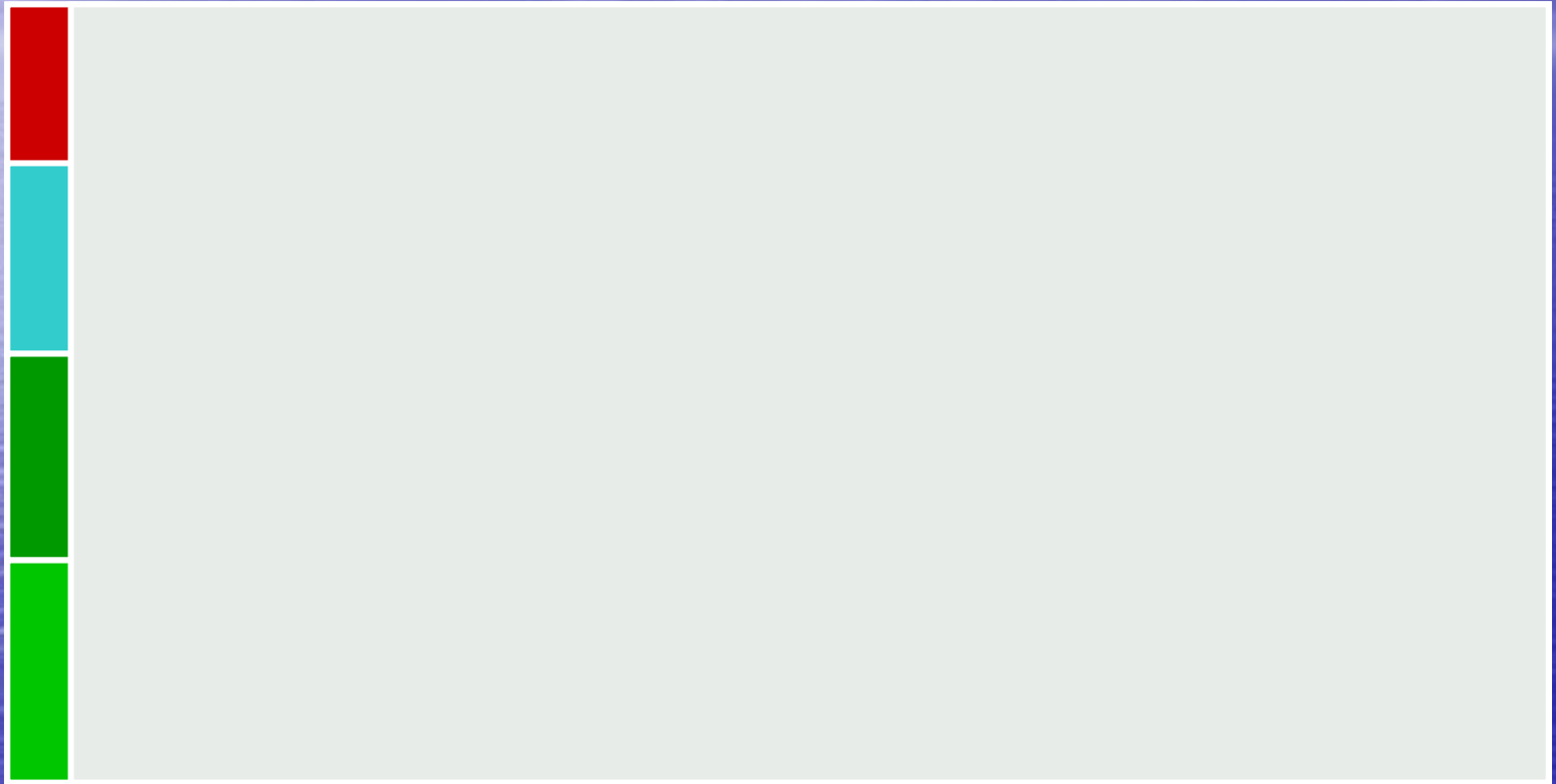
Research Development Technology Transfer Use

# Effective Innovation



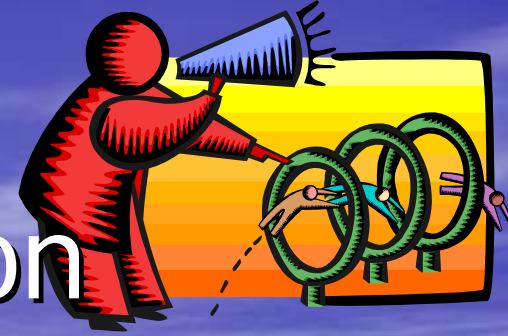
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Research Development Technology Transfer Use

# Effective Innovation



100%

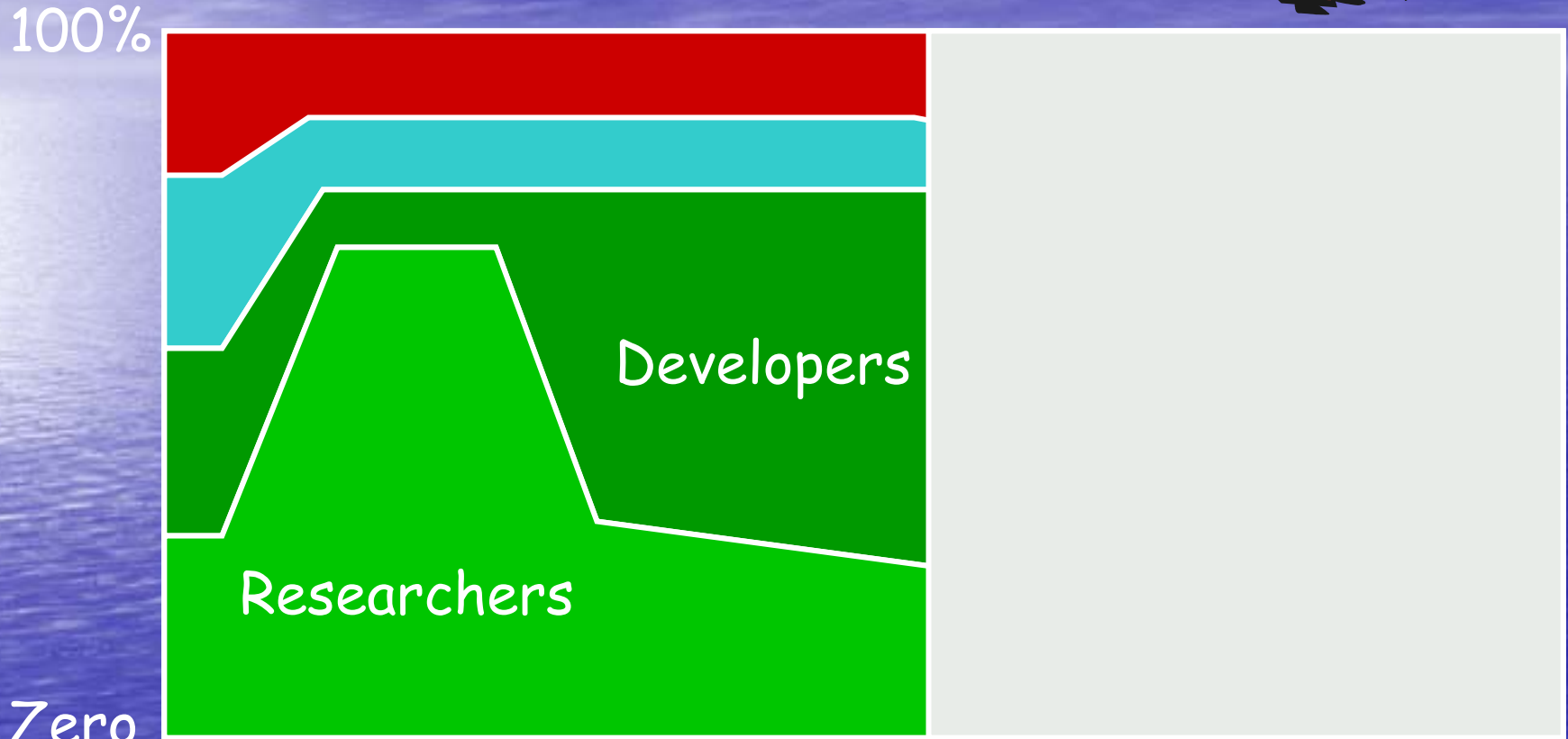
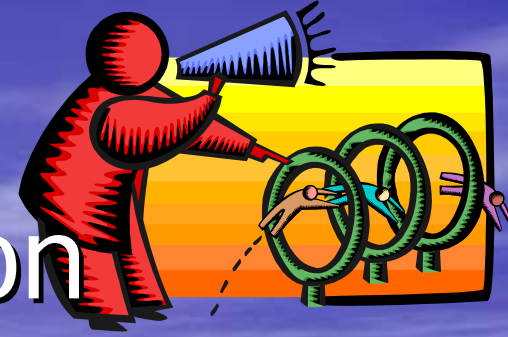
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Research

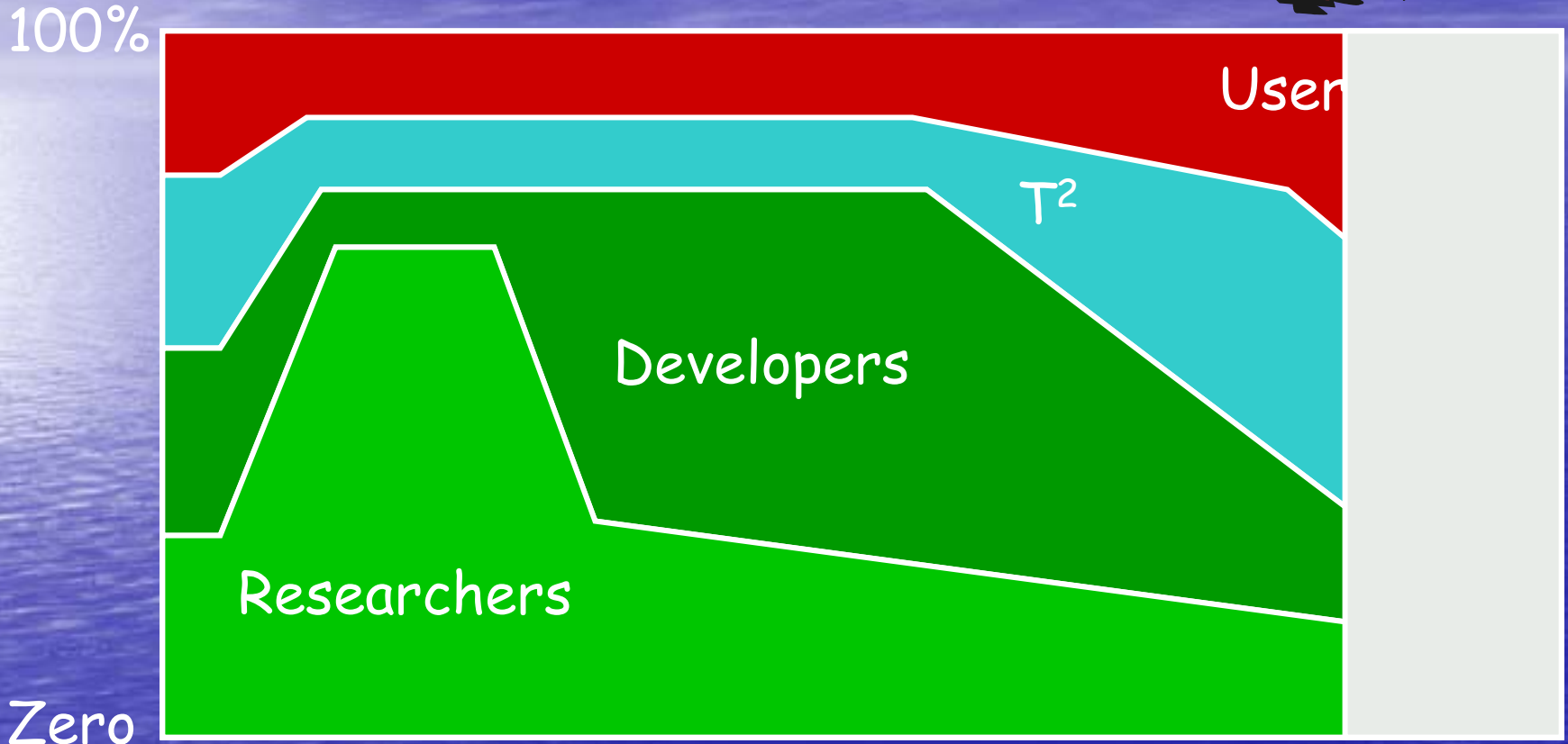
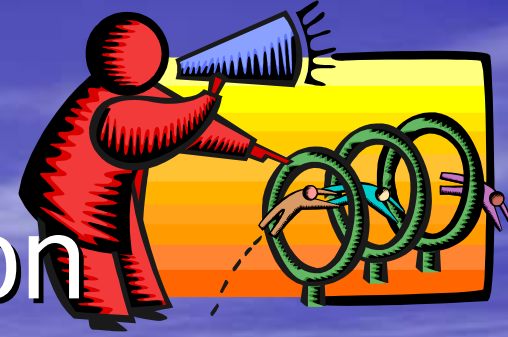
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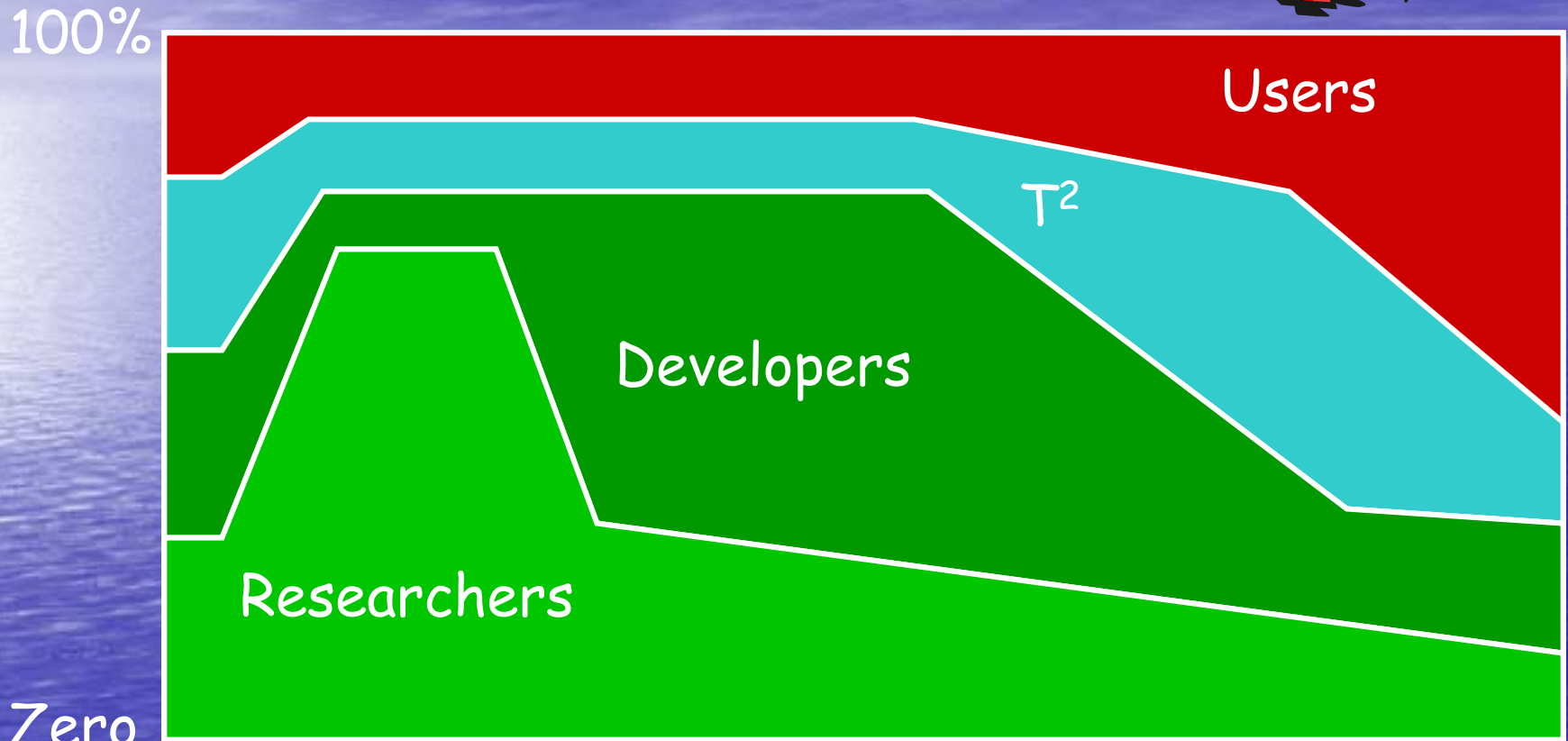
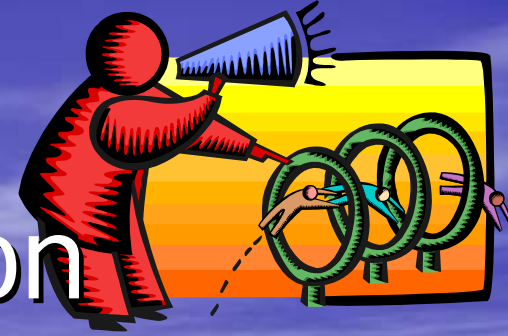


Research Development Technology Transfer Use

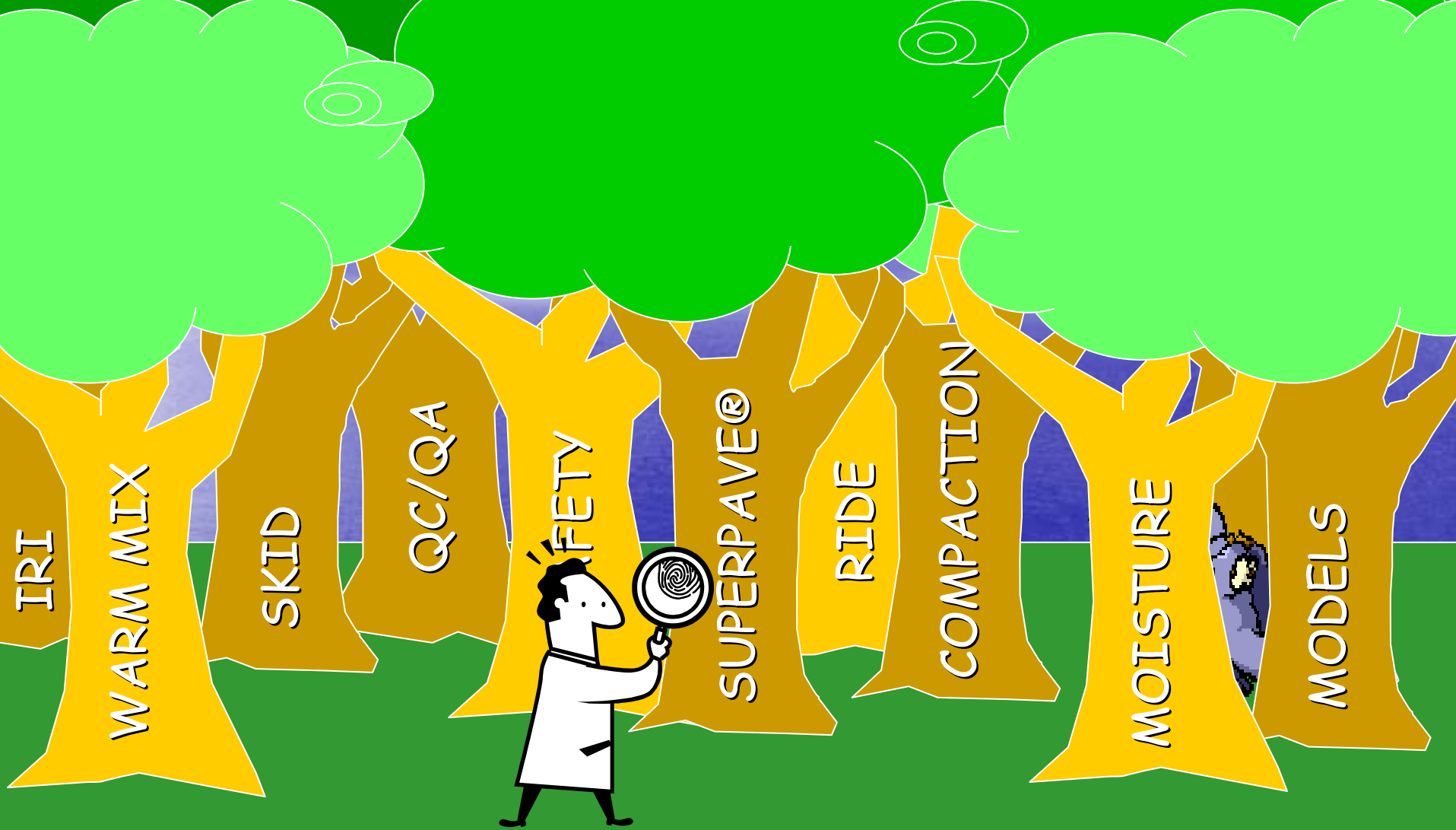
# Effective Innovation



# Effective Innovation

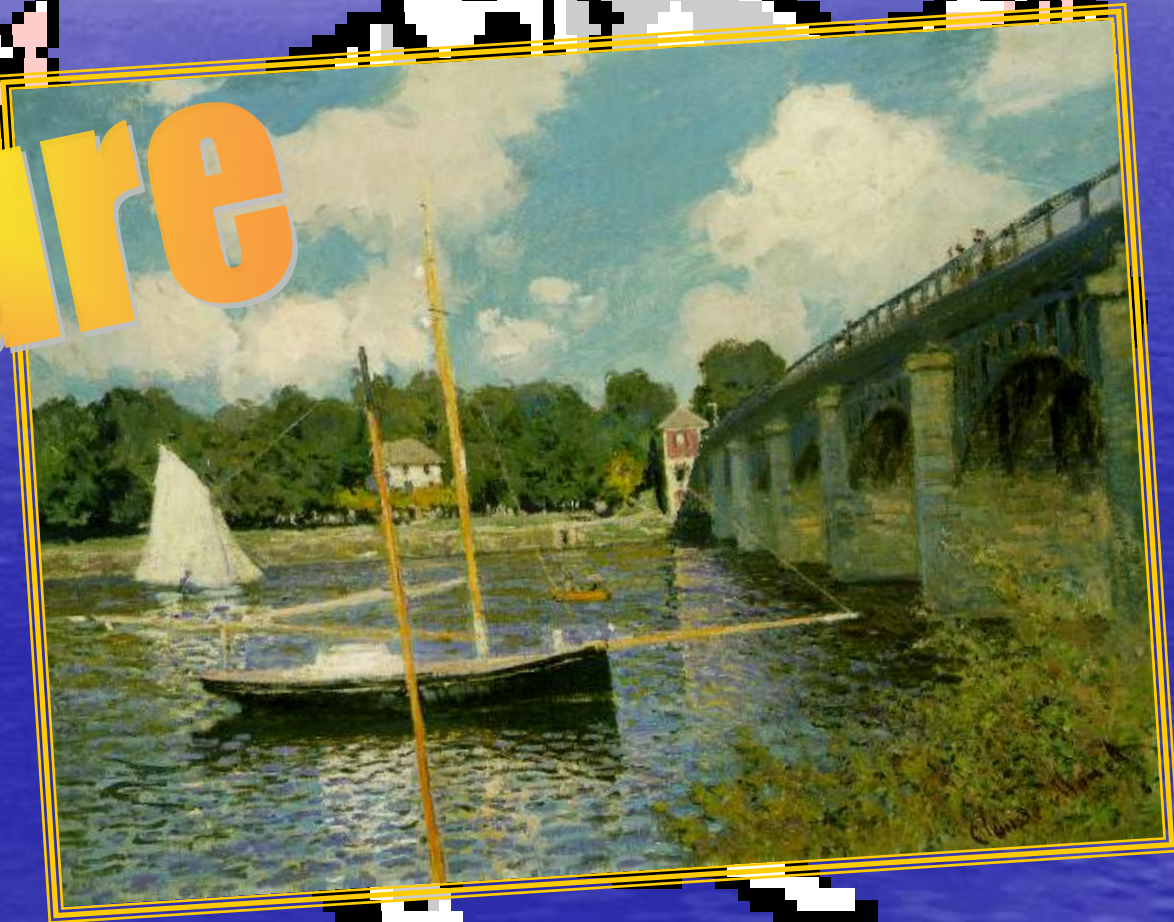


Research Development Technology Transfer Use



Sometime we can't see the forest for the trees.

# The BIG Picture



# Research to Specifications

- The SHRP Experience
  - 1984 STRS Report
  - 1987 SHRP Program
  - 1993 SHRP completion
  - 1993 Implementation initiation
  - 2000 declaration of success
  - 2006 last highway agency adopts SHRP binder specification.



Smooth  
Roads Ahead

