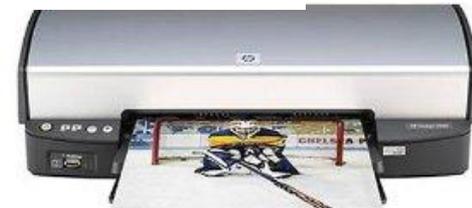


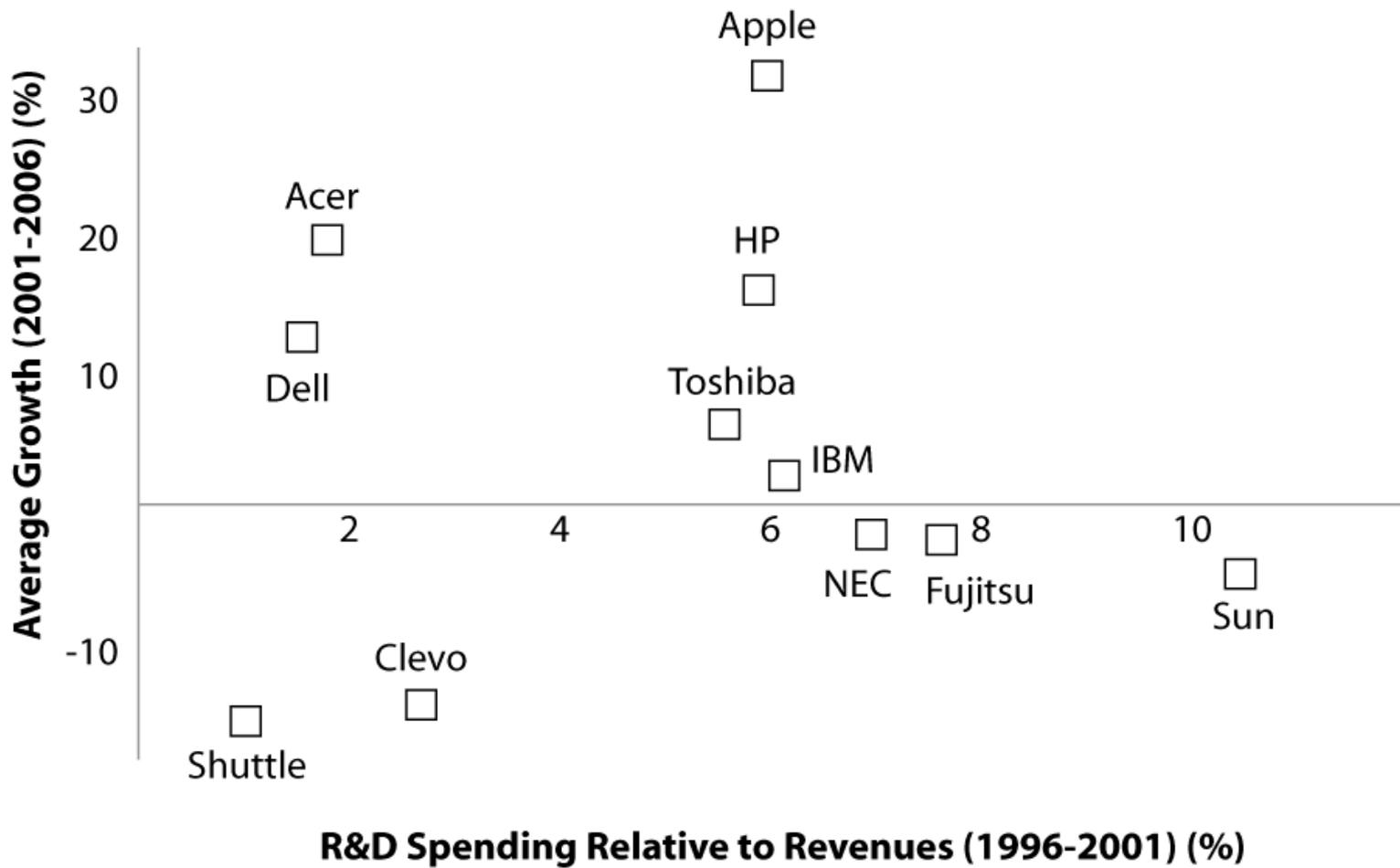


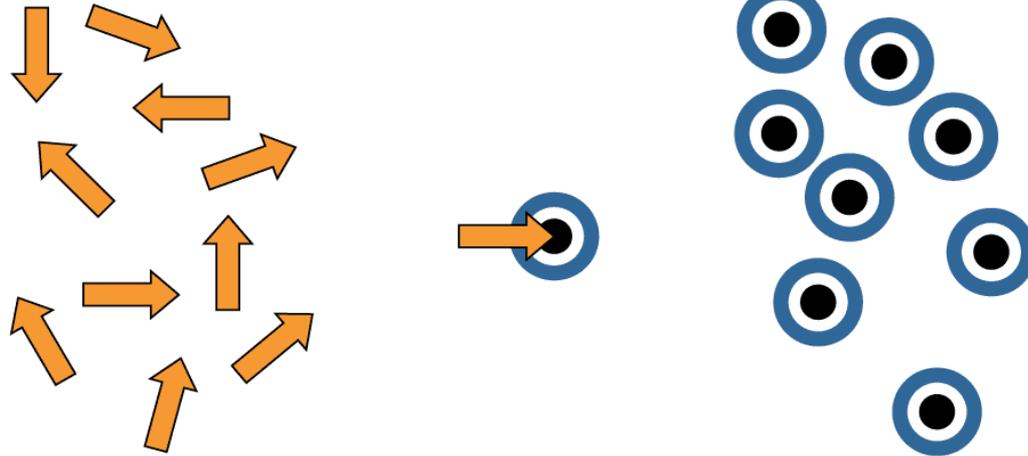

terra pass
 restore the balance









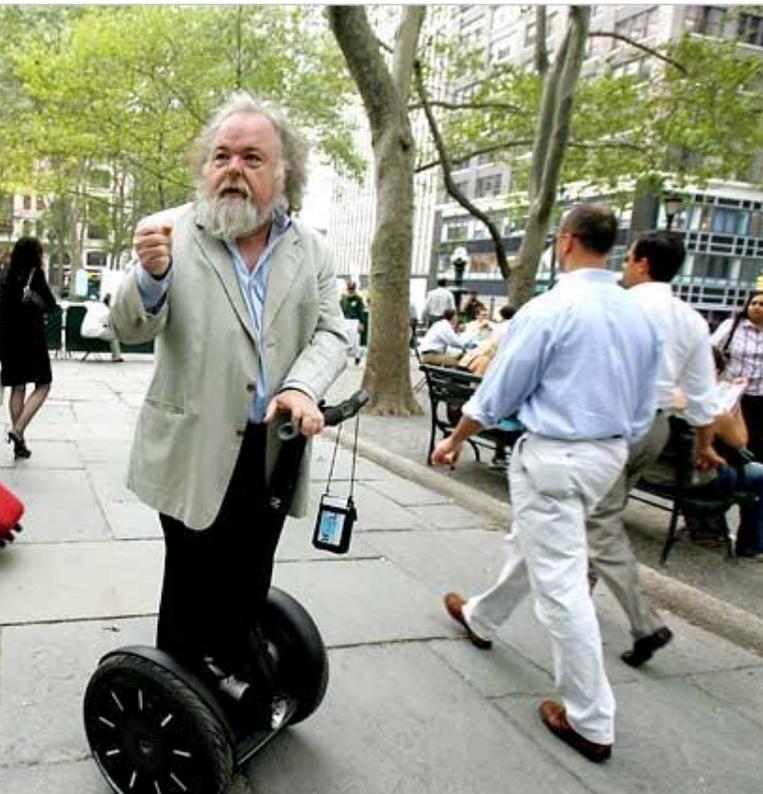


Innovation

A new match between a solution and a need.

Successful innovation results in the creation of value.

- The solution is worth more to the user than the cost of delivering it.*



Step 1

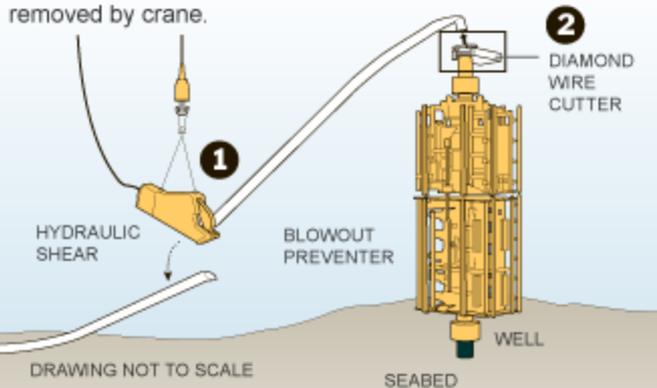
A hydraulic shear will cut off most of the bent 21-inch riser pipe still attached to the damaged blowout preventer. The 4,000 feet of pipe will be removed by crane.

Step 2

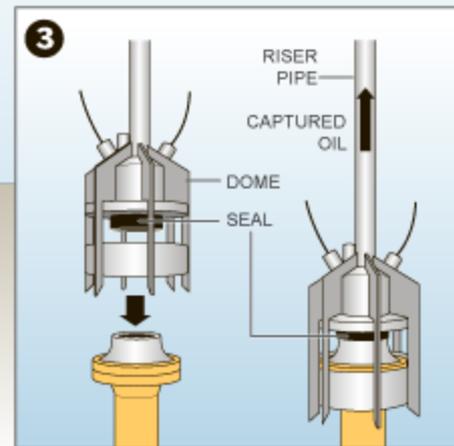
A diamond wire cutter will cut off the remaining pipe from the top of the blowout preventer. Using a diamond cutter will make the cut smooth and even.

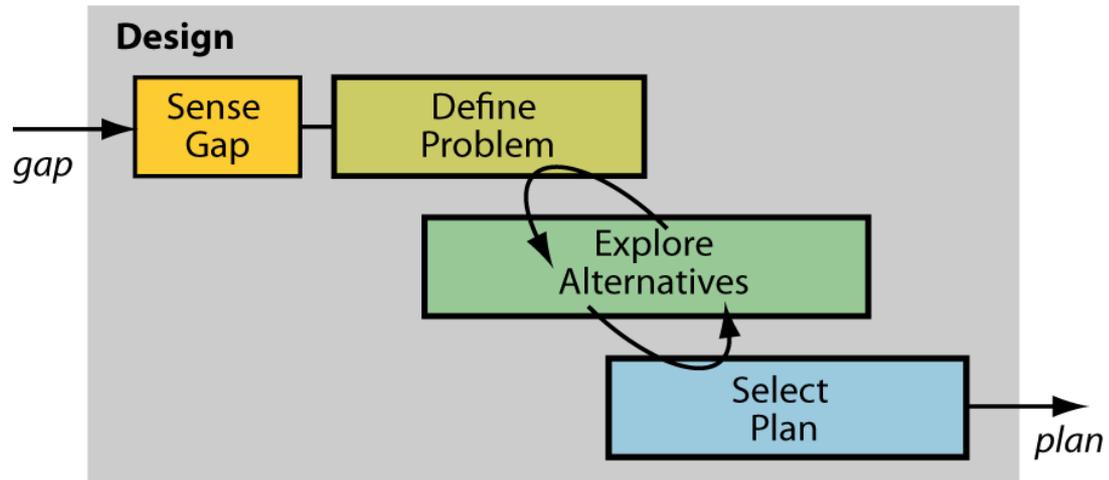
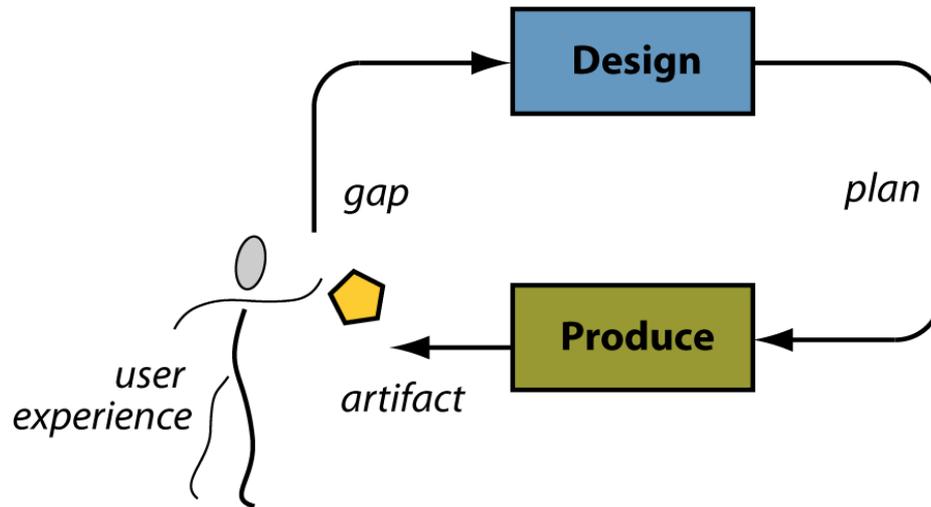
Step 3

A 21-inch riser pipe will be lowered from the Discoverer Enterprise drill ship. It will be connected to a dome that has already been lowered to the sea floor. Robots will try to position the dome and riser on top of the sheared blowout.



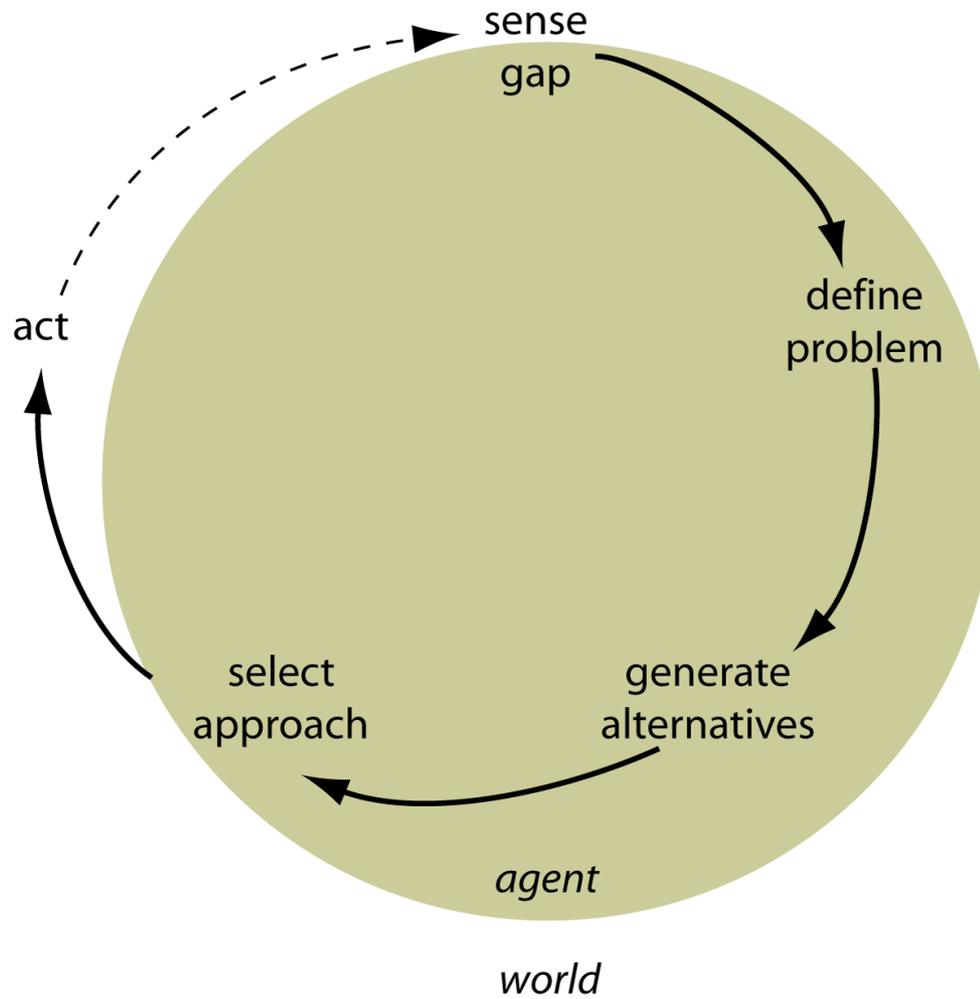
The new riser will have a 6 5/8 inch internal pipe to capture leaking oil and gas. Warm seawater will be pumped down the riser to insulate the smaller pipe and prevent natural gas hydrates — ice crystals formed from water and natural gas under high pressure. Methane will also be pumped down the riser pump to prevent the formation of hydrates.



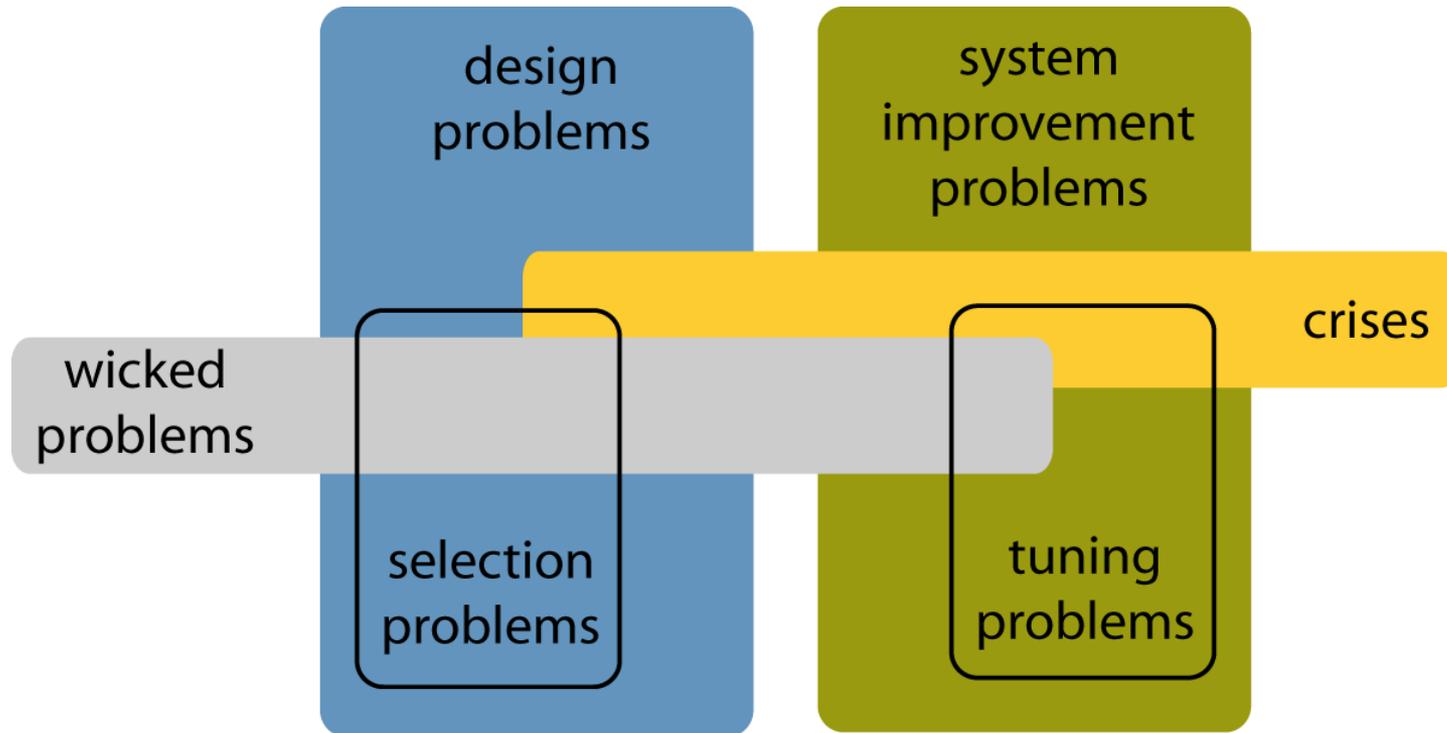


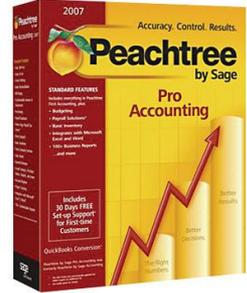
A General Problem Solving Process

define
generate
select
act



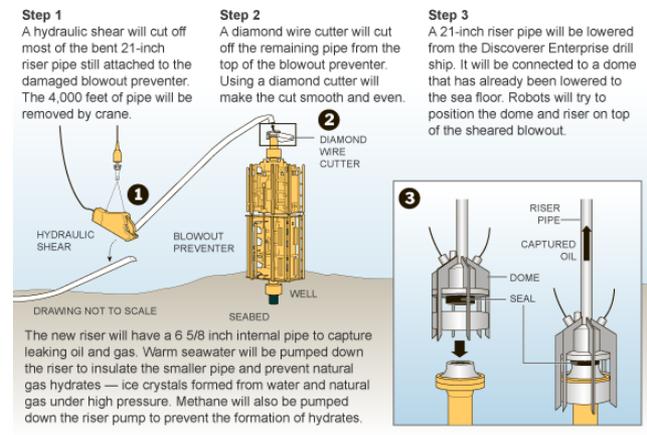
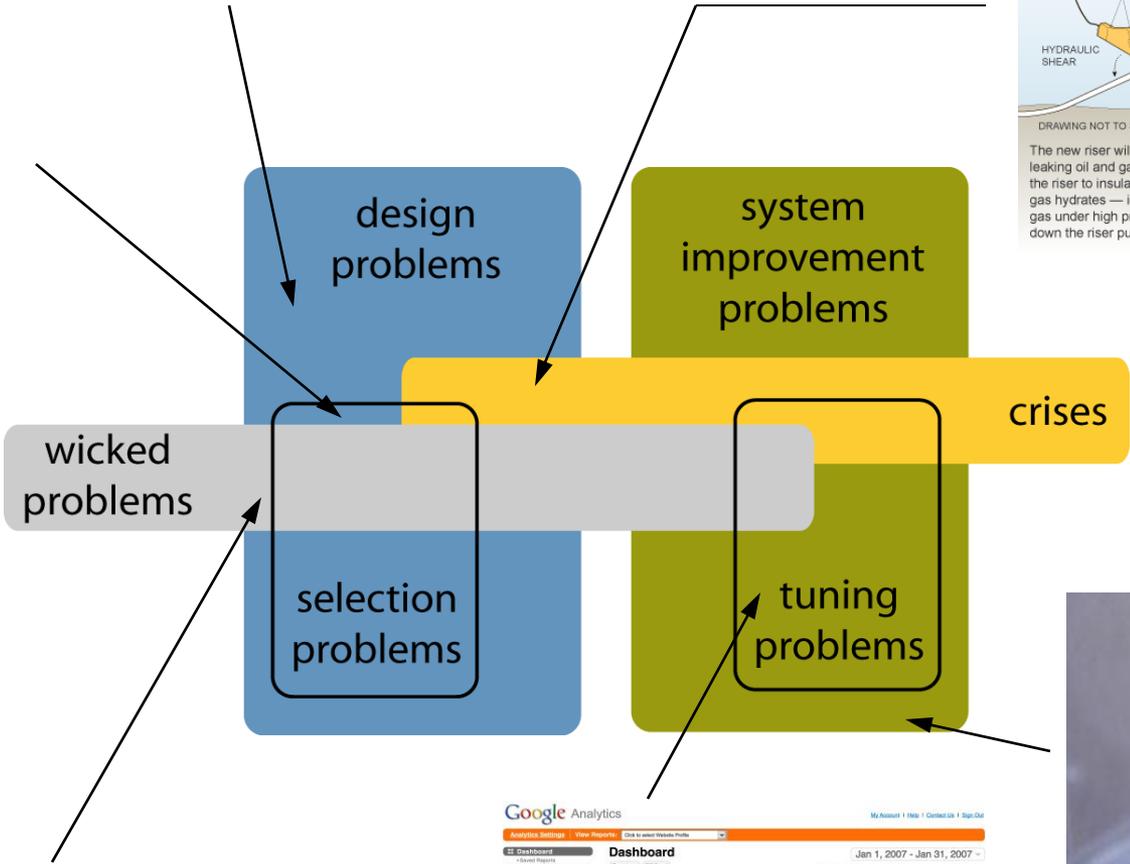
Six Types of Problems



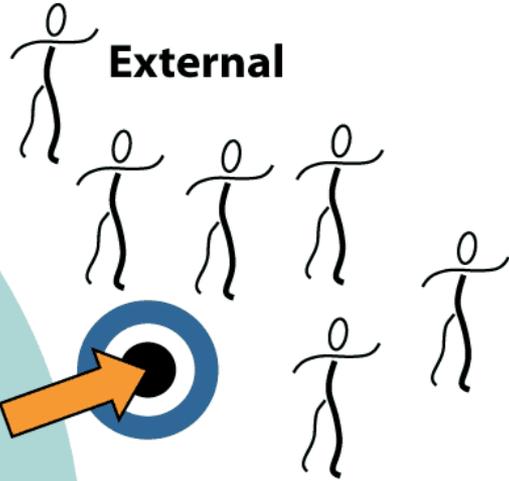
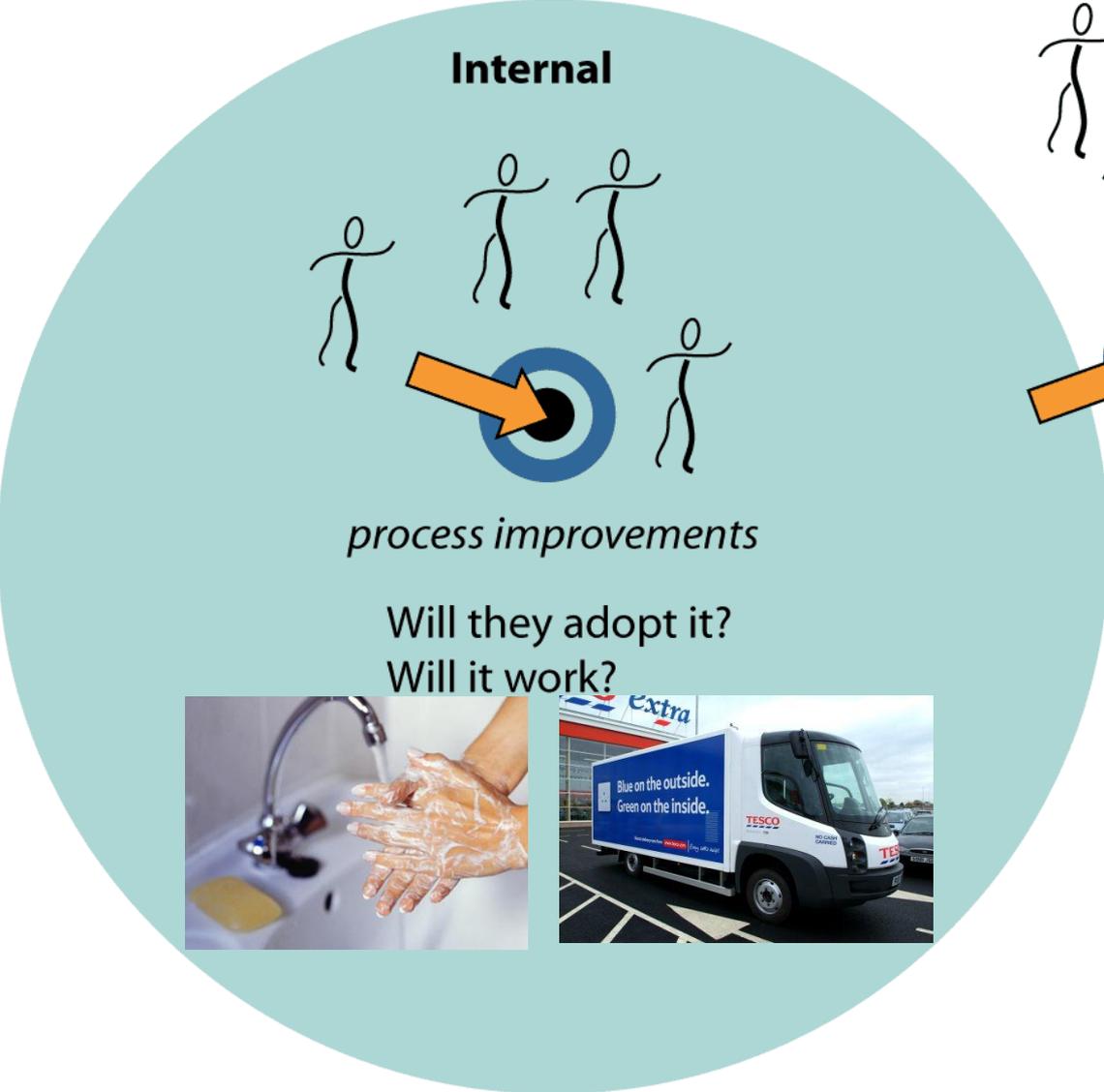


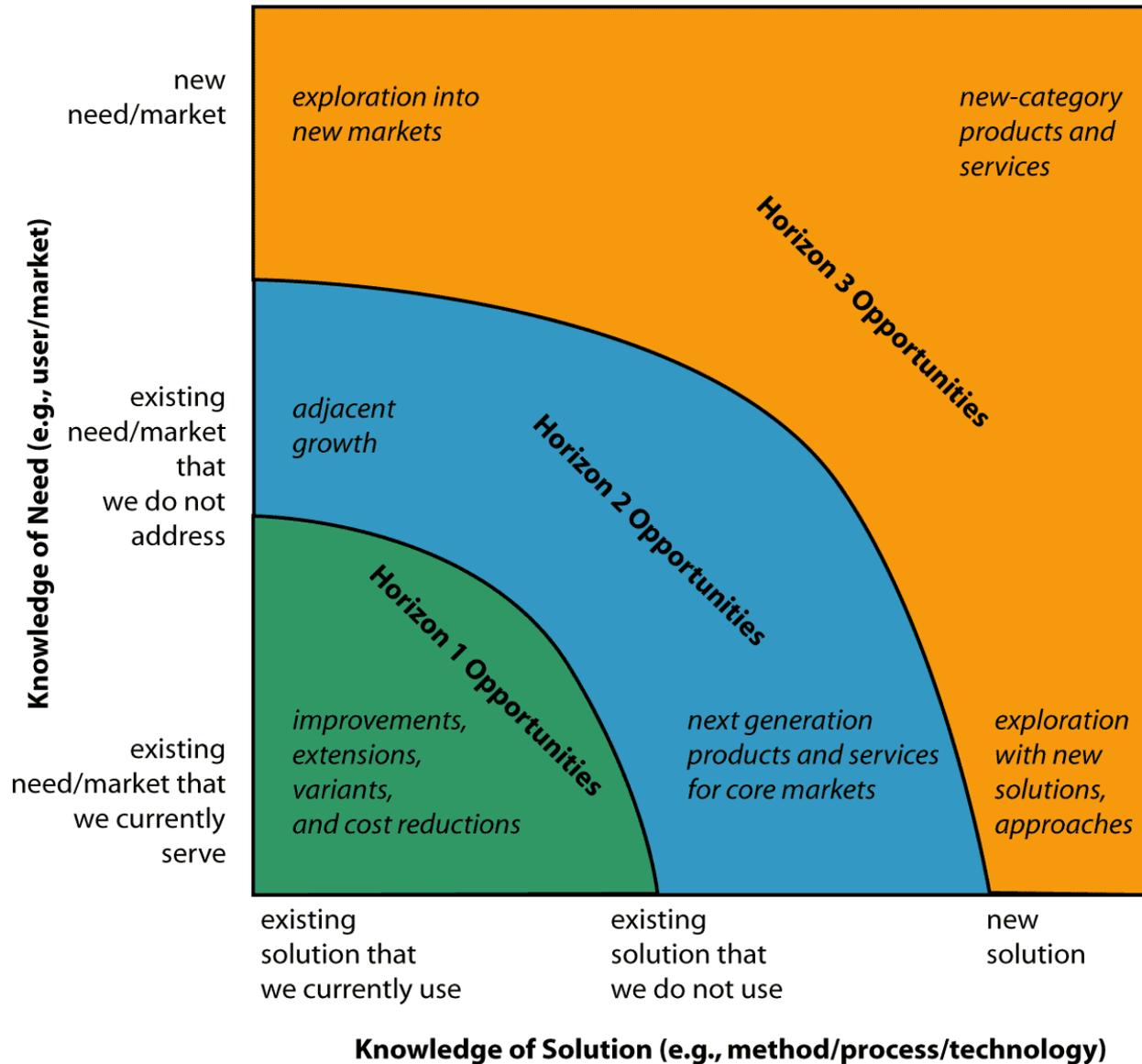
1881
first

The world's first collegiate business school—advancing new ideas and leaders for more than 125 years.



External and Internal Innovations Face Similar Uncertainties







\$80 mm investment by Kleiner-Perkins, CSFB

Specifications:

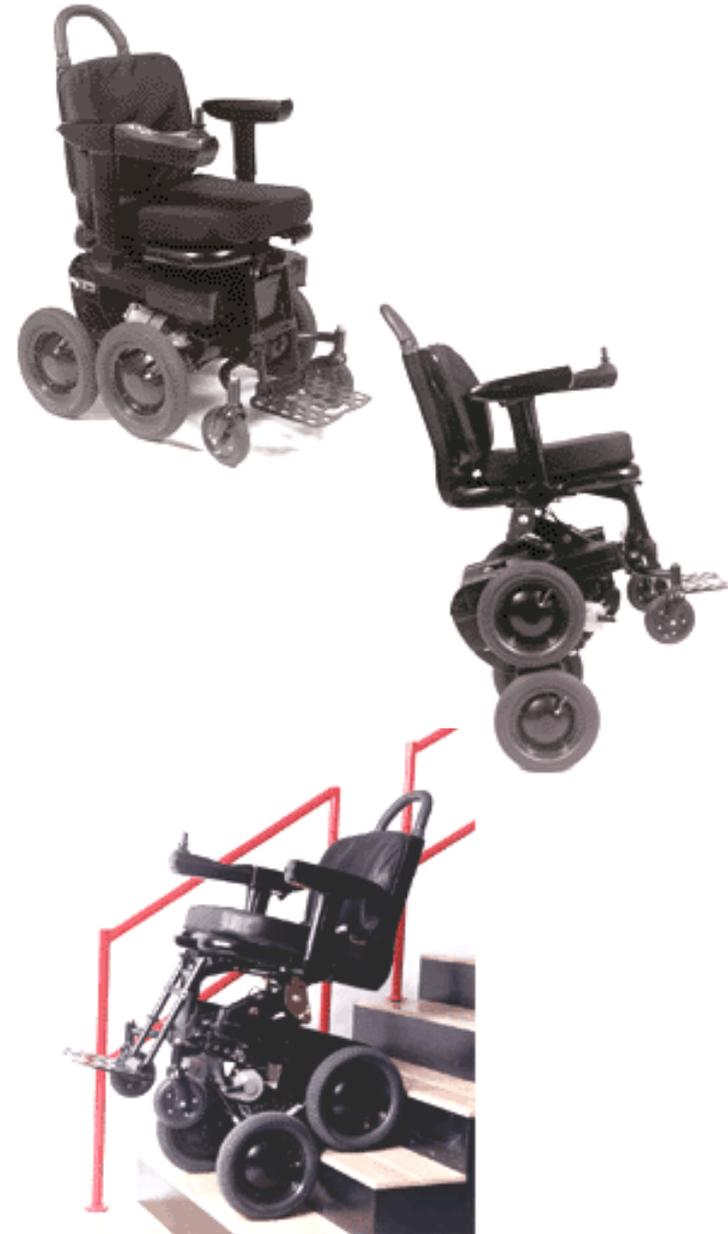
- 12.5 mph
- 80 lbs
- 11 miles range
- \$9000
(consumer version \$4950)

Original volume projections:
40,000 units/month by end of 2002.

“I would stake my reputation, my money and my time on the fact that 10 years from now, this will be the way many people in many places get around. If all we end up with are a few billion-dollar niche markets, that would be a disappointment. It’s not like our goal was just to put the golf-cart industry out of business”

– Dean Kamen

iBot Self-Balancing Wheelchair



The Peril of Technology Push

Market Need
(the “WHAT”)

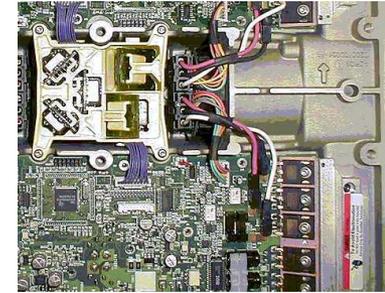


Technological
Concept
(the “HOW”)



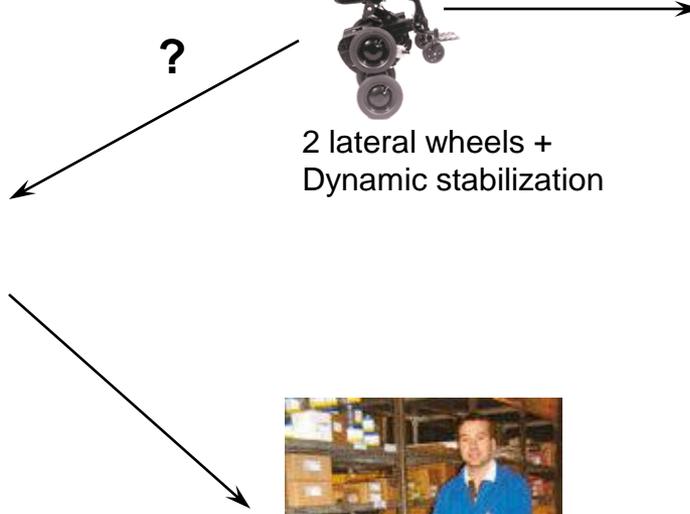
2 lateral wheels +
Dynamic stabilization

Inherent Cost
Structure



Active fault tolerance
Twin drive
Sensing and controls
Power management
Asymptotic cost = \$1500?

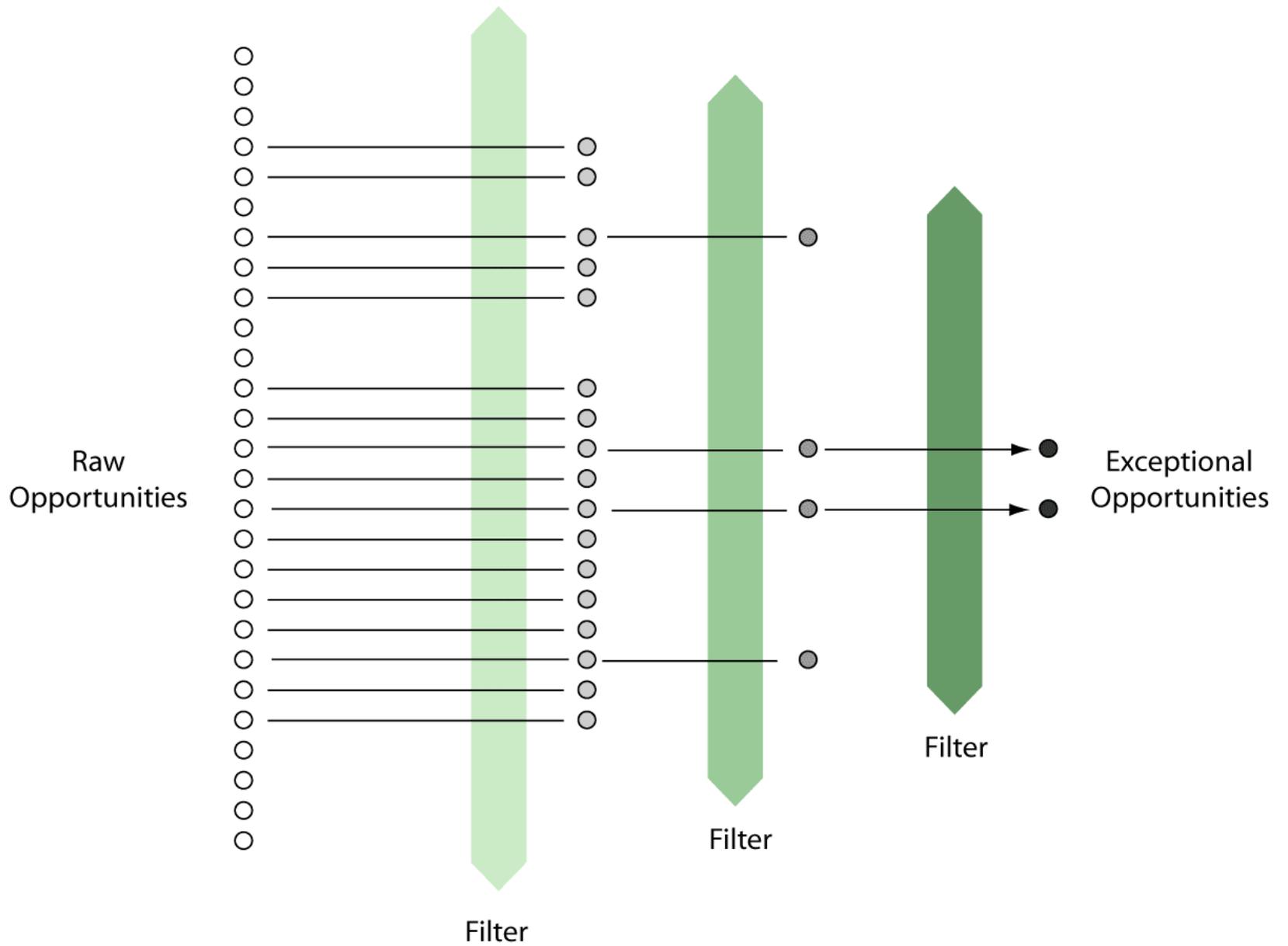
?

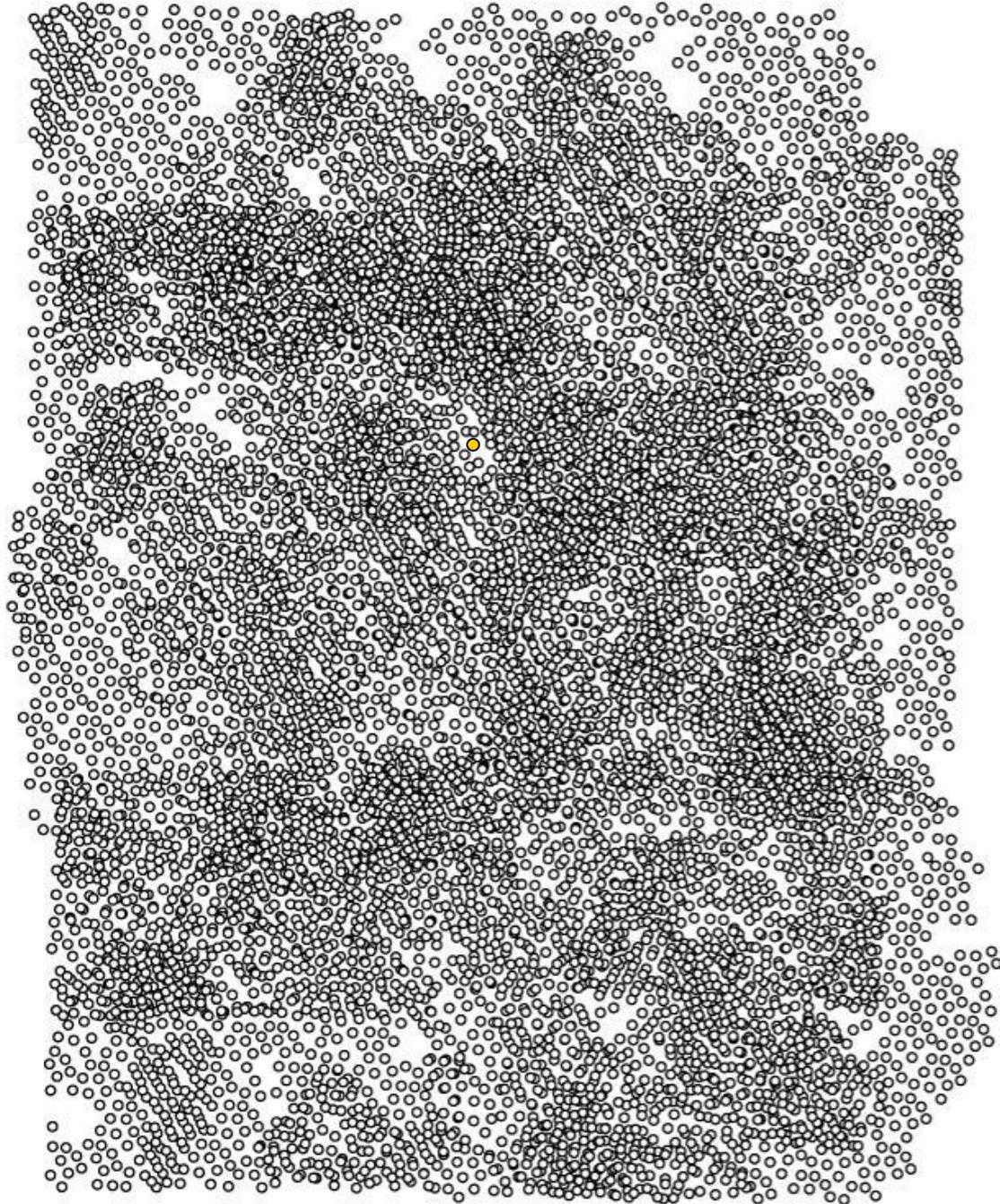


3 wheels – tripod +
“Throttle”

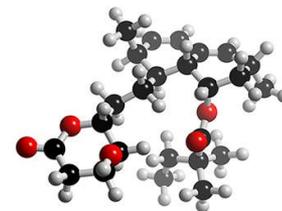
Single drive
Trivial controls
Inherent passive fault tolerance
Asymptotic cost = \$400?







10,000 newly discovered compounds

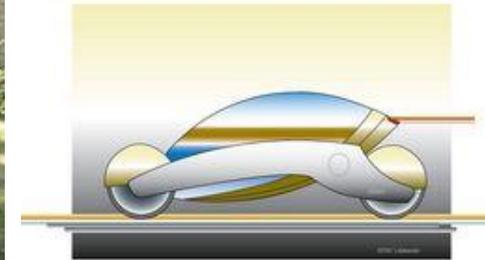
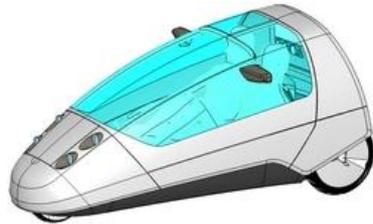
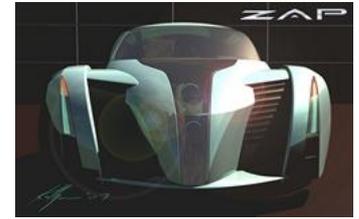
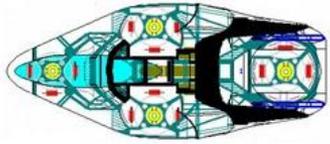


8-12 years
\$500 million - \$1 billion

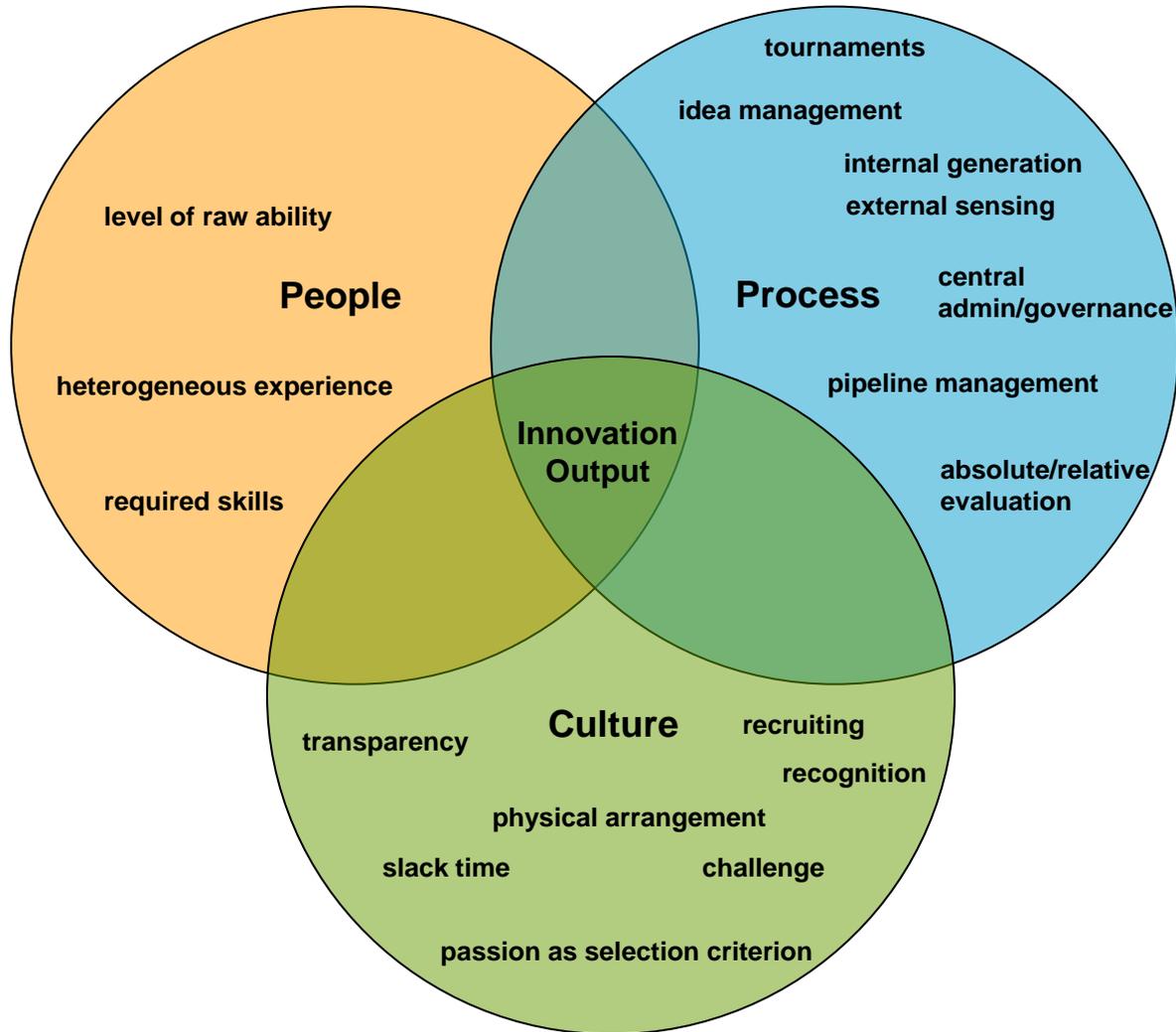


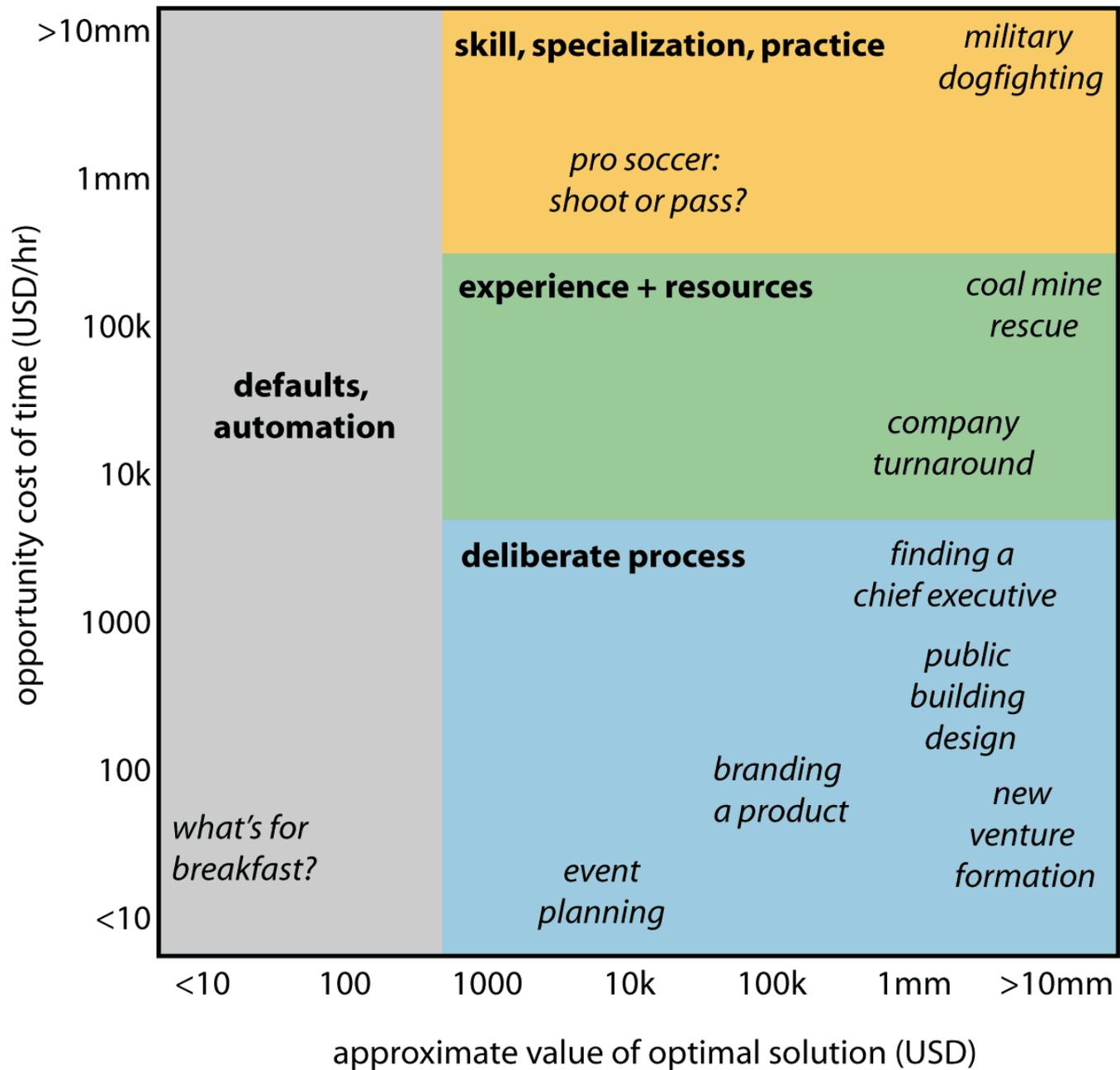
ZOCOR
(SIMVASTATIN)

1 new drug

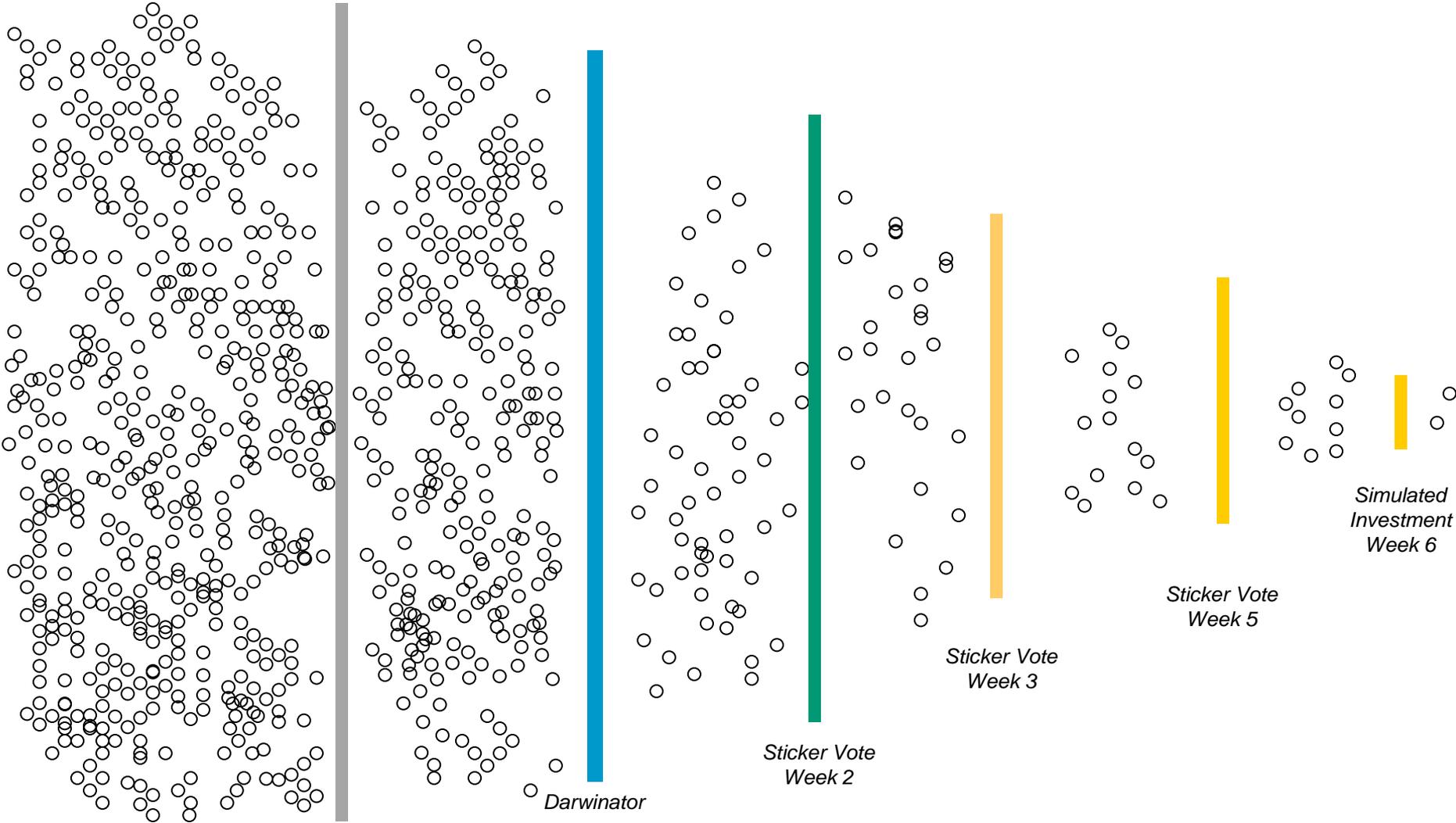


Elements of Innovation Performance





Innovation Process – OPIM 651



~500 opportunities identified by individuals

~300 opportunities submitted by individuals

~60 opportunities developed by individuals

~30 concepts developed by teams of 2

~15 companies prototyped by teams of 4

~10 b-plans presented by teams of 6

0-2 ventures launched
20

	Opportunity	A. Required Investment (\$ millions)	B. Expected Profit Contribution (\$ millions)	C. Profitability Index (= B/A)	D. Net Profit Contribution (= B – A)	E. Cumulative Profit Contribution (= sum of D's)
1	Redhook	5	53	10.6	48	48
2	Chocorua	3	22	7.3	19	67
3	South Street	22	90	4.1	68	135
4	Myth Buster	11	22	2.0	11	146
5	Carlos	5	7	1.4	2	147
6	Muriel	14	14	1.0	0	147
7	Idaho	9	8	0.9	-1	146

