

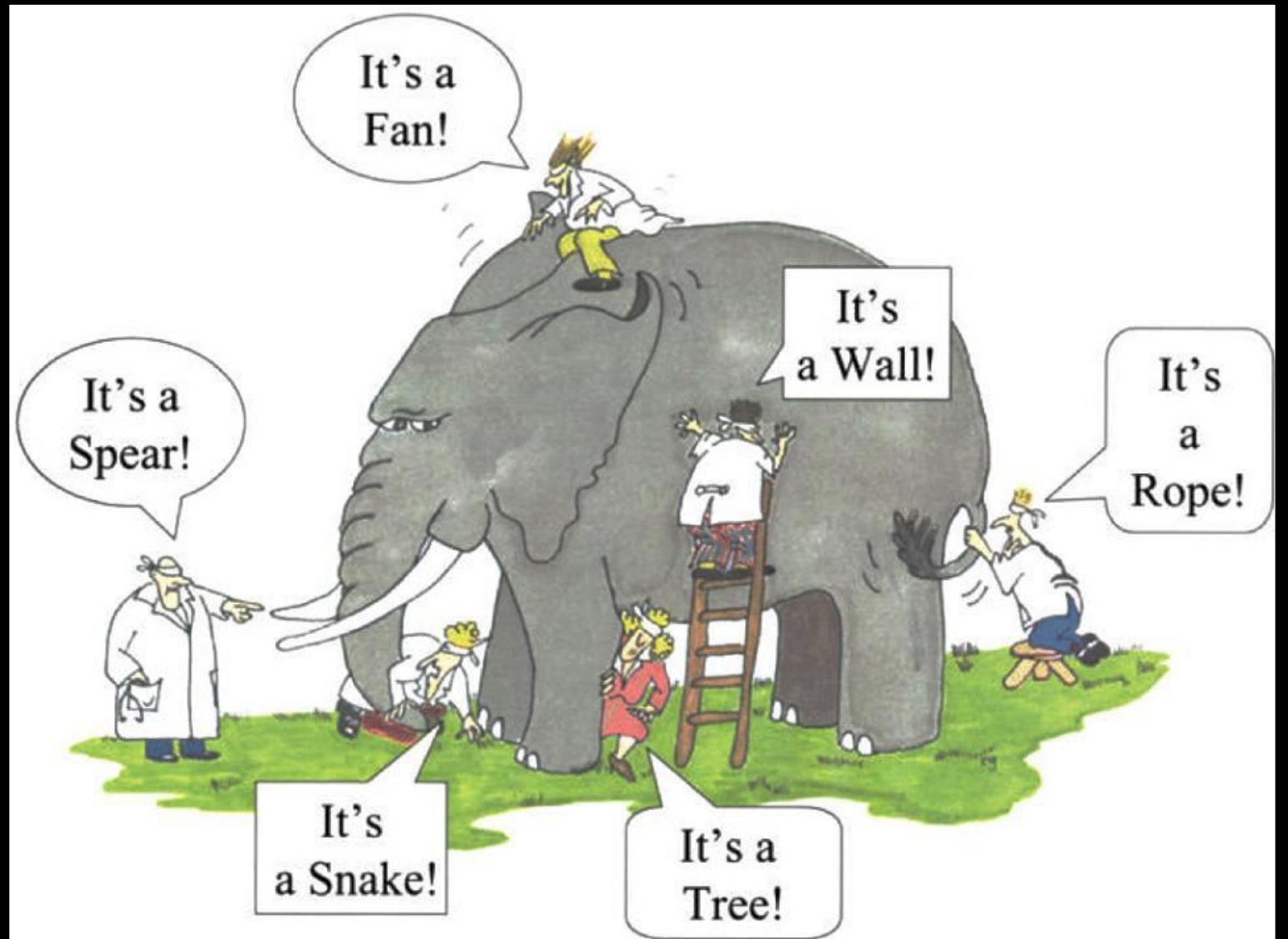


Considering Complex Problems

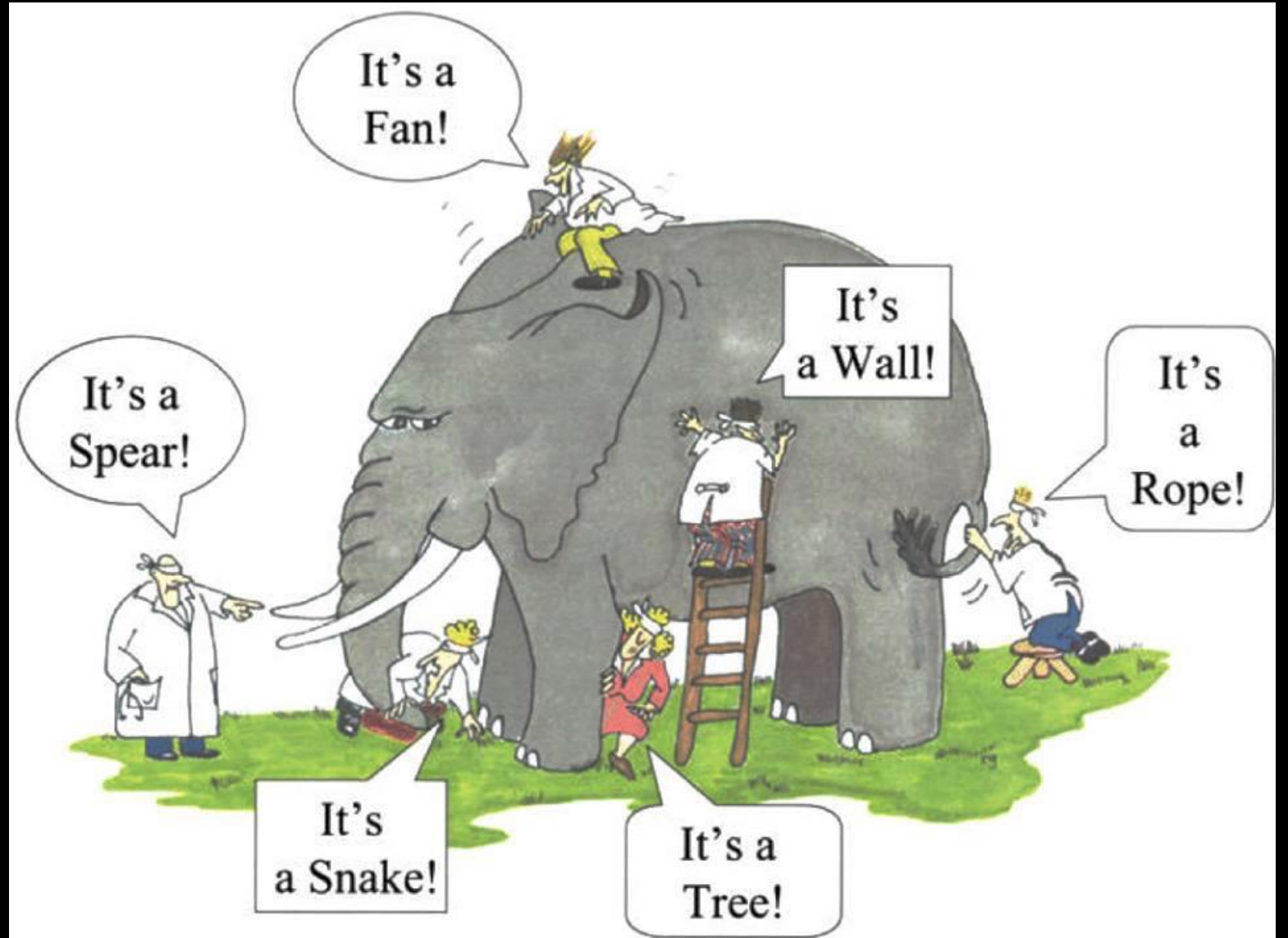
A personal approach

Pablo Garcia Tello, CERN IdeaSquare

What's wrong with these poor guys?



How could somebody make life even more difficult for them?




First seek to understand...only after,
and eventually, seek to “solve”.



What is
understanding?

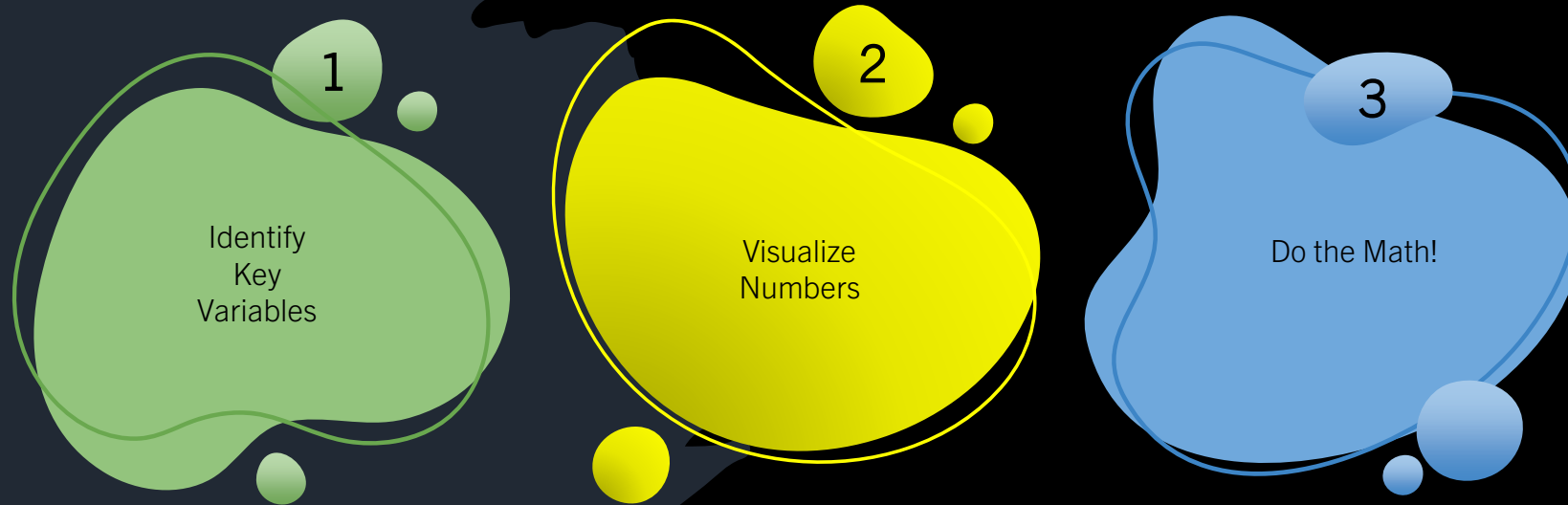




Knowing is not understanding. There is a great difference between knowing and understanding: you can know a lot about something and not really understand it.

– Charles Kettering

Three steps strategy



Identify
Key
Variables

1

Visualize
Numbers

2

Do the Math!

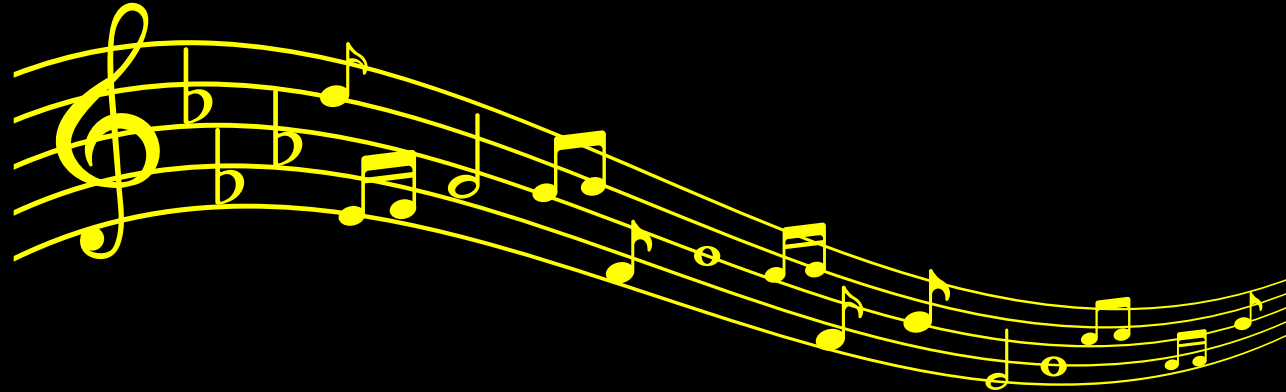
3



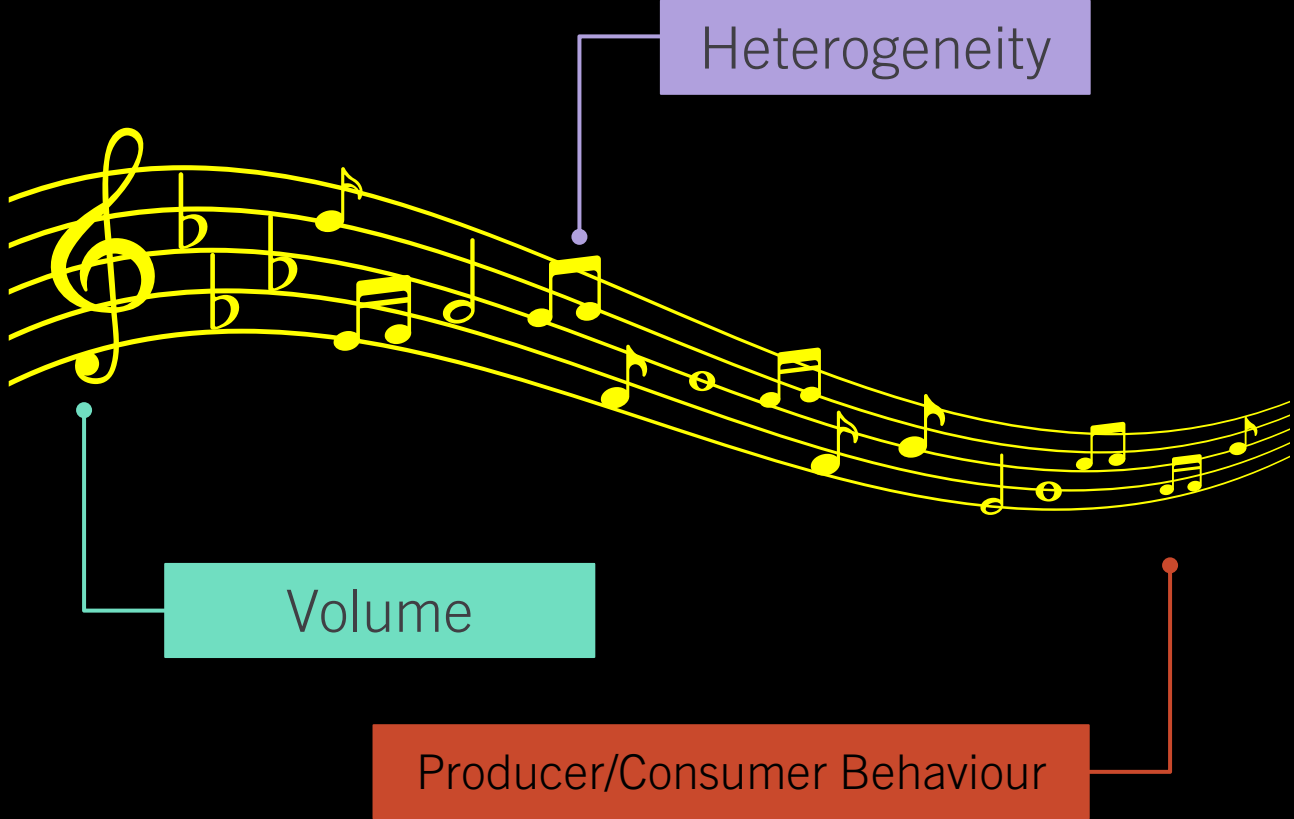
"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

Cosmetics Industry and Plastics

Key Variables?



Cosmetics Industry and Plastics



Australia: 12000 tonnes of cosmetic packaging from across the sector is currently being landfilled each year.

Volume

12 000 tonnes/year = 12 000 000 Kg/year

1 AEC Routemaster bus ~ 12 000 Kg

Cosmetics landfill in Australia ~ 1000 buses/year

Let's say we go for increasing efforts of recycling ...

Typical throughput of a plastic recycling plant ~ 20,000 tonnes/year ~ 20 000 000 Kg/year ~ 1500 buses/year

BUT...is it ALL recycled plastic, cosmetic plastic? What % shall we assume? Reality 9%

Assuming 9% recycling (of 1000 buses/year) means 90 buses/year

So, 910 buses/year goes still to landfill.

Note: Interesting Plastic Recycling Plant <https://www.svenskplastatervinning.se/en/>
(Cost ~ 1 Billion USD construction)
(200,000 tonnes of plastic packaging per year)
Operating at Net Zero

Heterogeneity



Only 1/3 of the recycling comes from “take back boxes in stores”.

Manual sorting necessary.

Low throughput: 20 bags/day (Weight estimation?)

Manufacturers: Oh dear! 70% comes from them.

Microplastics!

Not enough demand for recycled stuff!

Barely a business model.

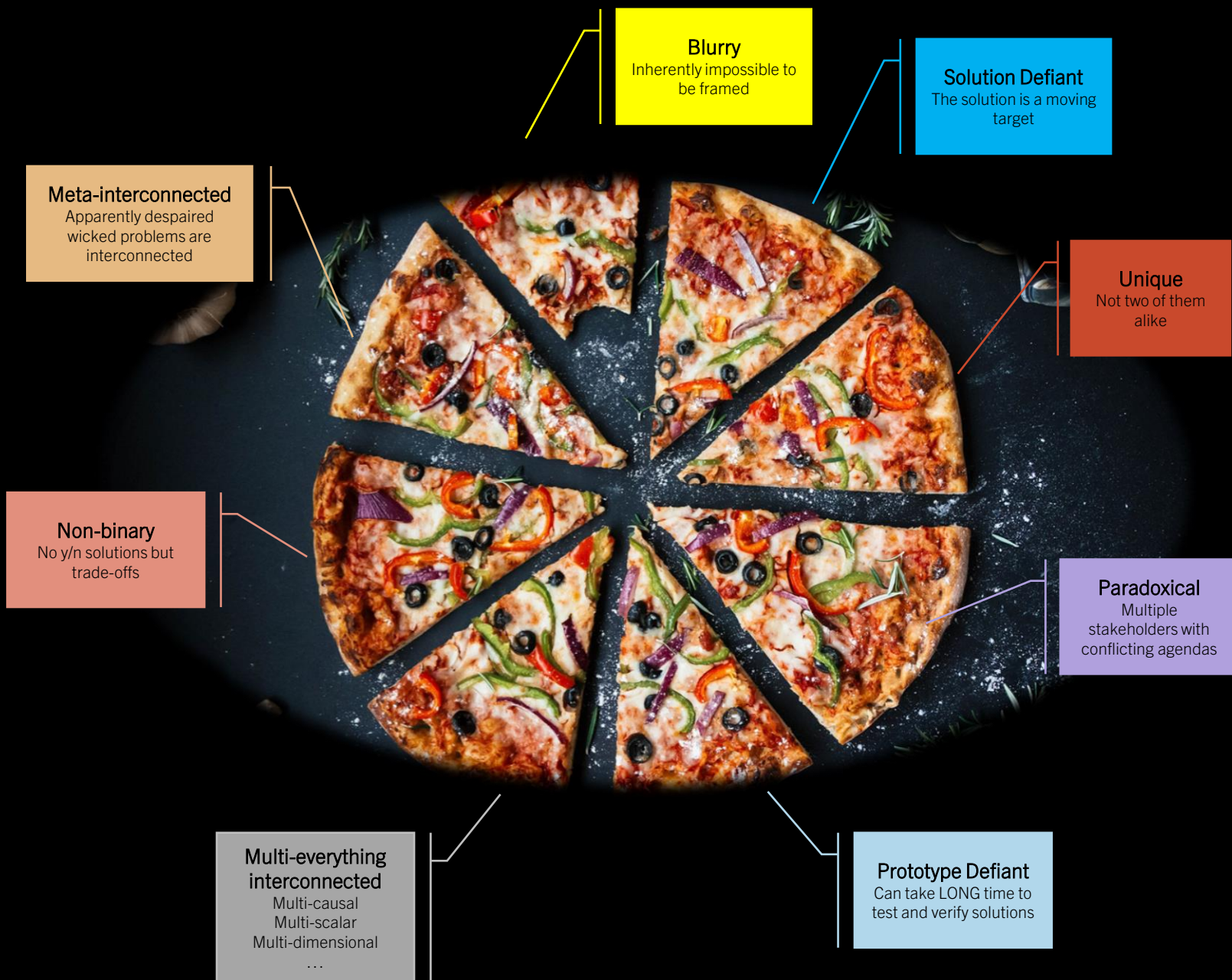
Manufacturer and Consumer Irresponsible Behaviours



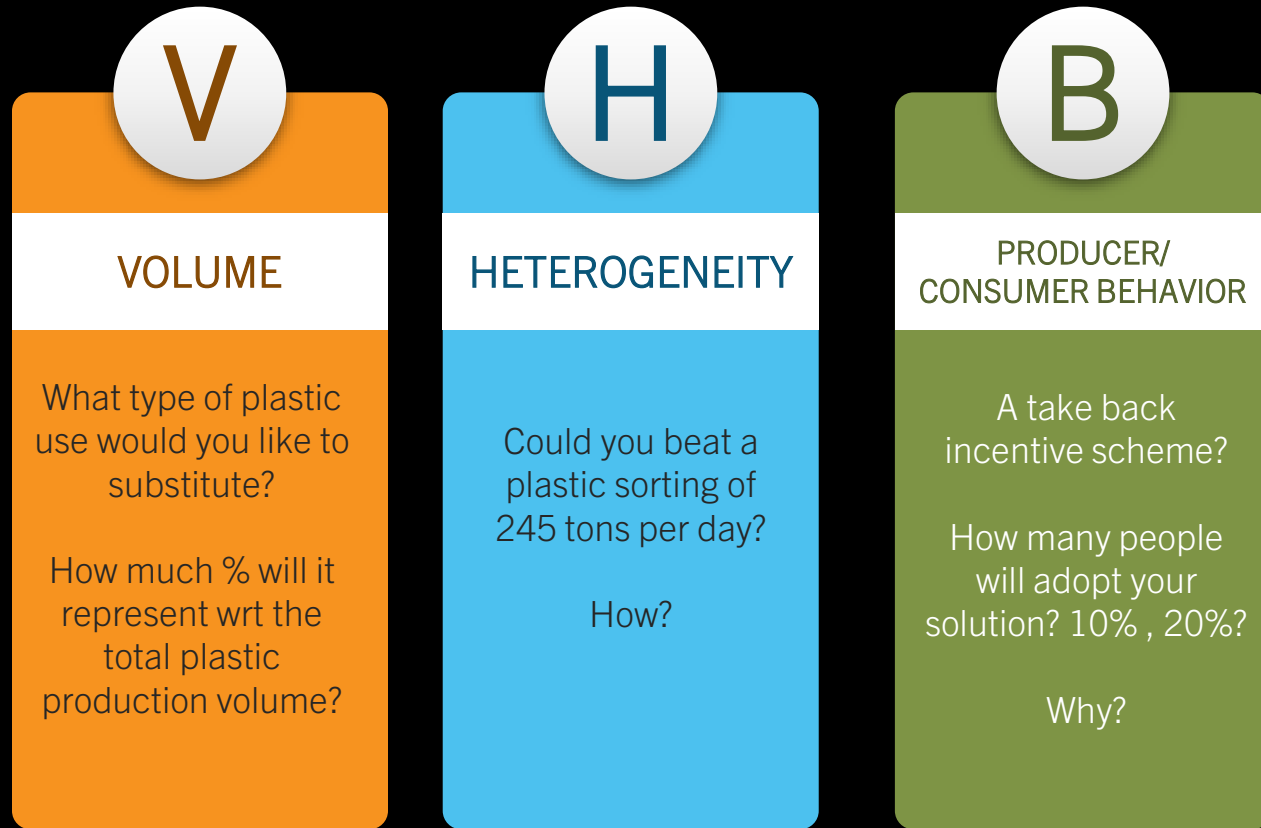
Please, do not miss them!



A word about “solving” and “solutions”



Every Single Wicked Problem is...



“Solution” means Impact
And Impact is quantifiable, not just wishful thinking
Please, do the math.

Also...could you beat this?

RECYCLED PLASTICS



VIRGIN PLASTICS



And don't forget...

The industry supports millions of European jobs up & down the value chain

Over
**3 MILLION
JOBS**
across Europe



254,259
people employed directly
2,778,674
people employed indirectly
>606,000
people employed through
induced effects

Is your solution creating or destroying jobs?

Shall you work out
another case?

