



ISWA 2024
WASTE TO WEALTH:
SOLUTIONS FOR A SUSTAINABLE FUTURE
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Overcoming Challenges in Leachable Analysis: A Novel Approach

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CONTEXT AND PROBLEM FRAMING



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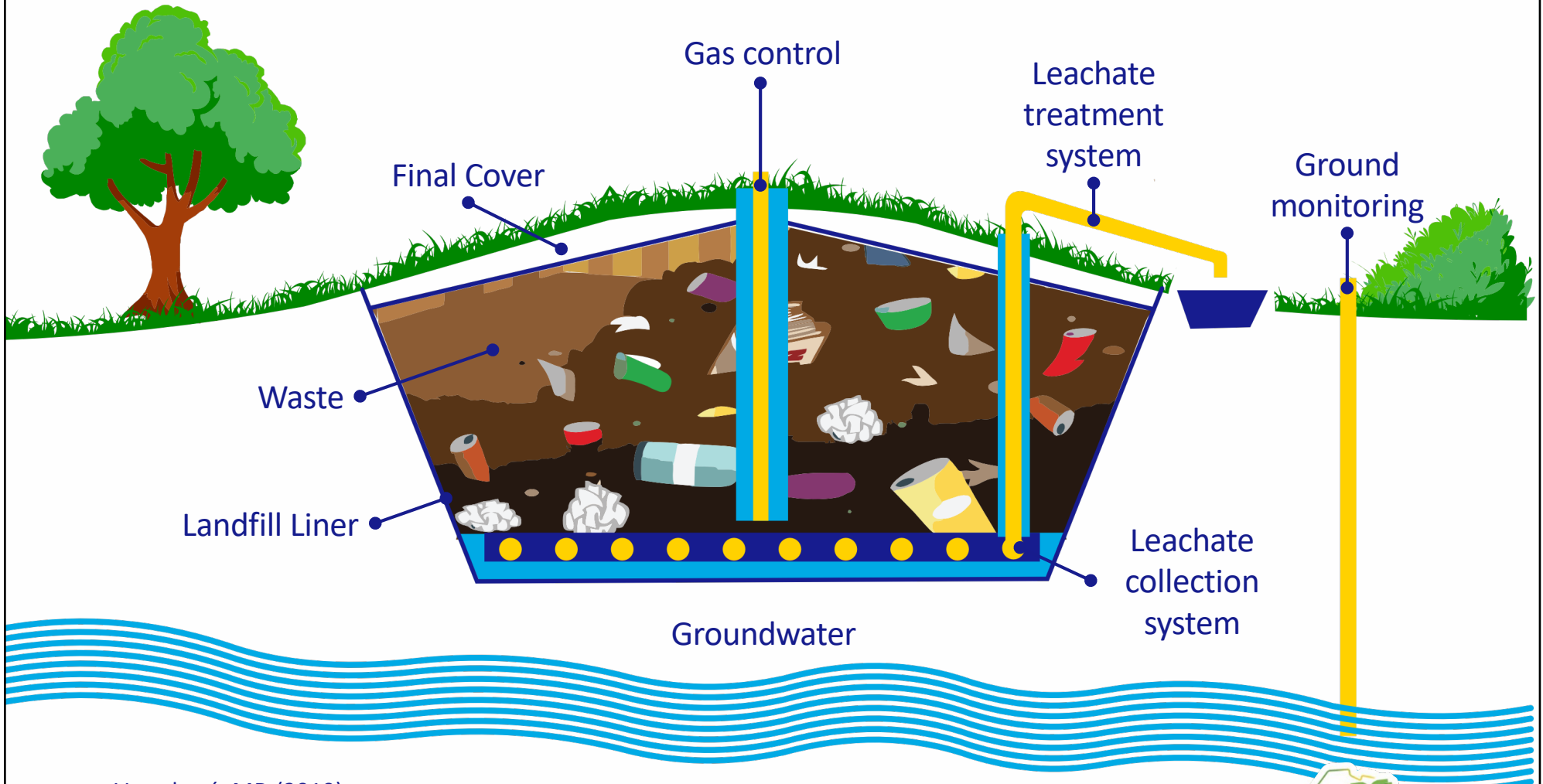


AIDS HELPLINE: 0800-0123-22 Prevention is the cure

WHY



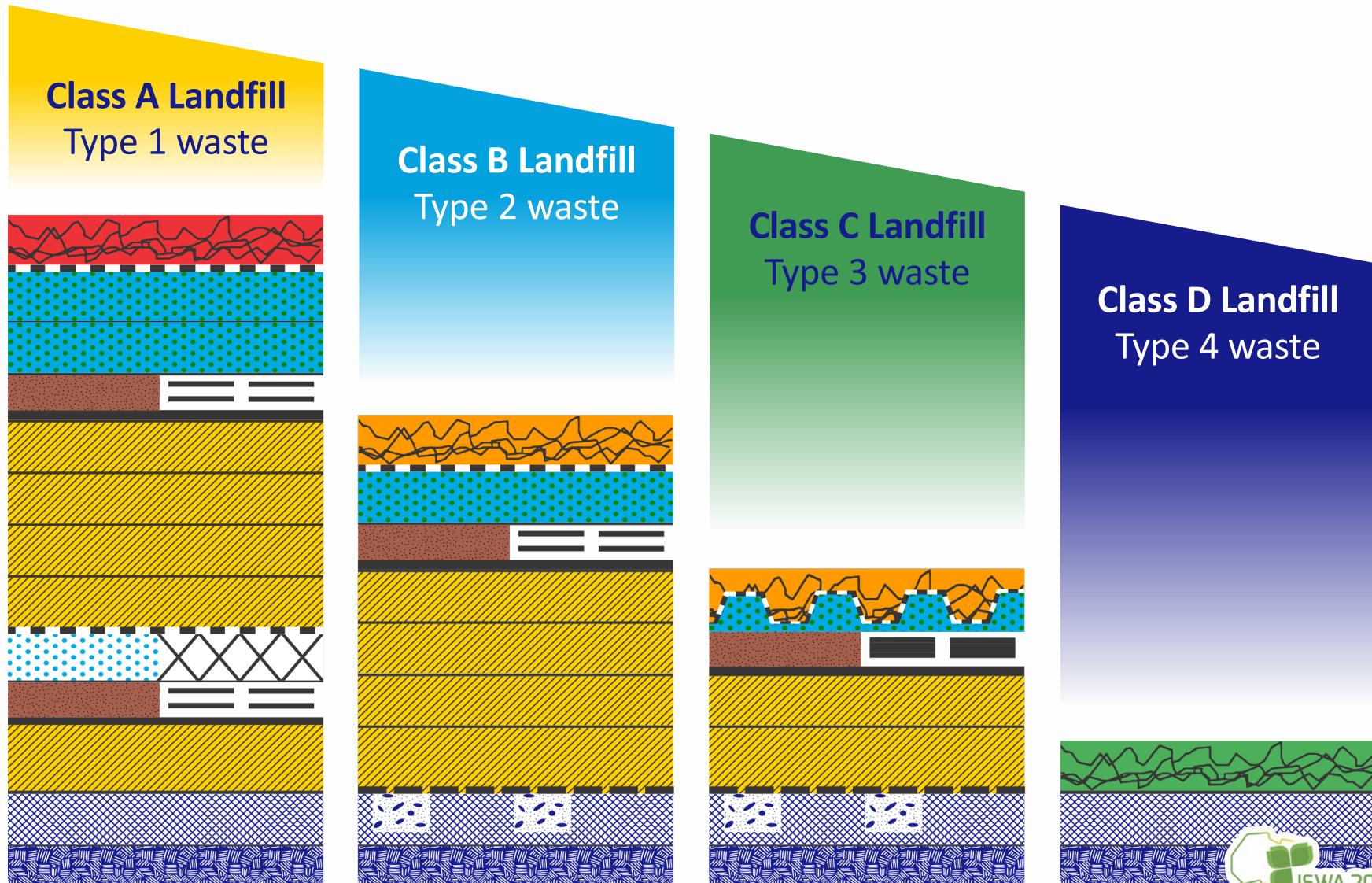
Why should we care?



Vaverková, MD (2019)



What waste? Which liner?



How are waste types established?



Analytica-world, (2024)

Capital Cost: R800k – R2500k
Running cost: Low
Turn Around Time: 10 min
Skills Required: Easy to learn
Limitations: Not ideal for leachable concentration analyses



Ukm, (2024)

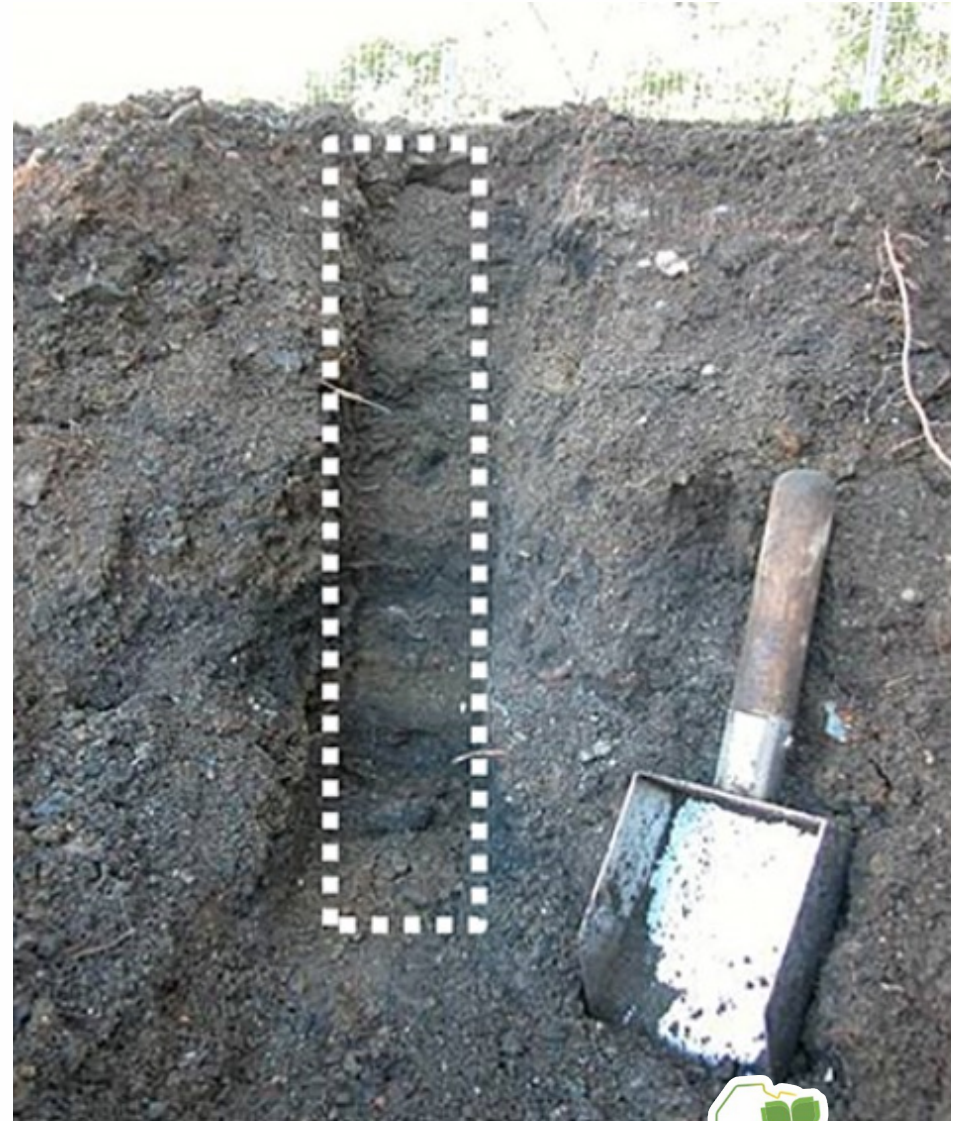
Capital Cost: R2500k – R4000k
Running cost: High
Turn Around Time: 2 – 4 hrs
Skills Required: Highly specialized
Limitations: Sample preparation



Agilent, (2024)

Capital Cost: R2500k – R4000k
Running cost: High
Turn Around Time: 4 Days
Skills Required: Highly specialized
Limitations: Sample preparation

Heterogeneity and treatment?

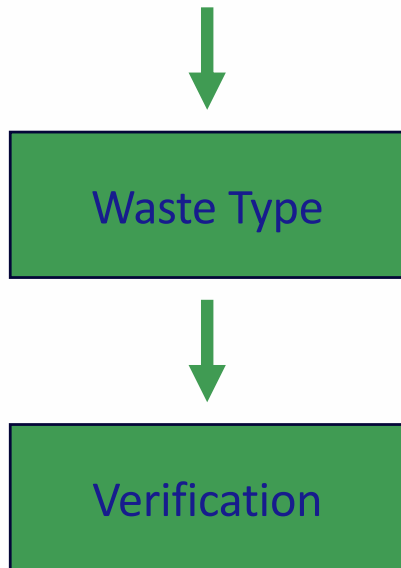


Dubé, JS & Duhaime, F (2020)

Heterogeneity and treatment?



Agilent, (2024)



SA market rates
>R300/t for solid
waste compared
to 220 – 2300
Euros/t in the EU

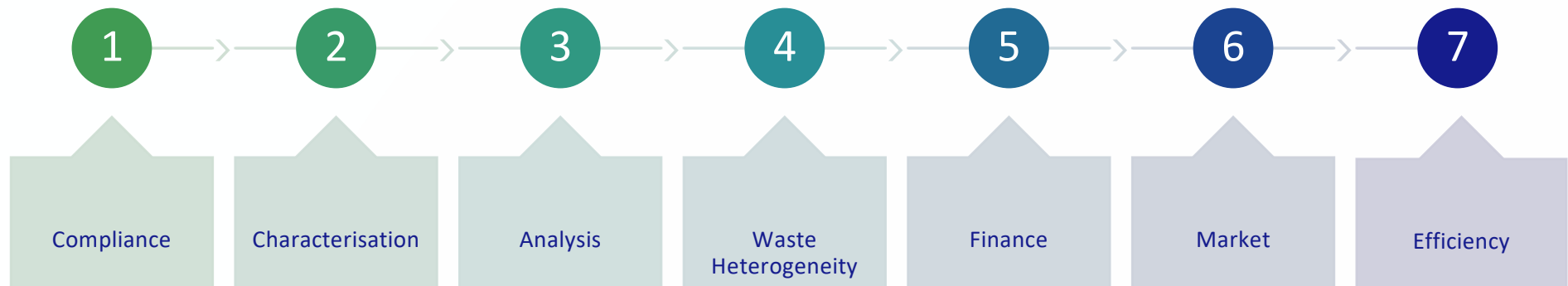




WHAT NOW?



What do we know so far?



What do we propose?



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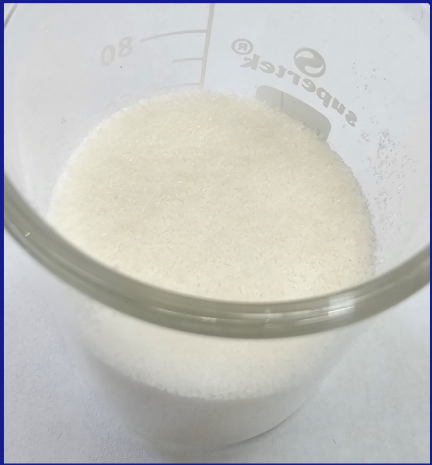
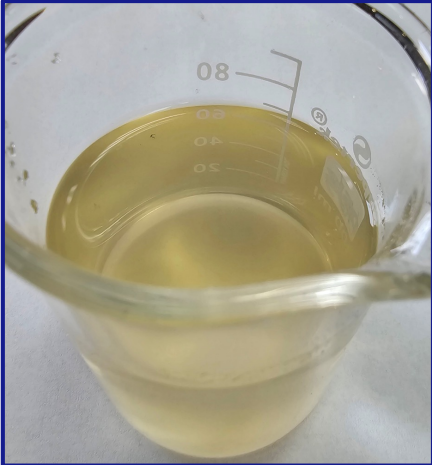
What do we propose?

Analyze for the chemical elements and chemical substances specified in the Norms and Standards that are known to occur, likely to occur or can reasonably be expected to occur in the waste.

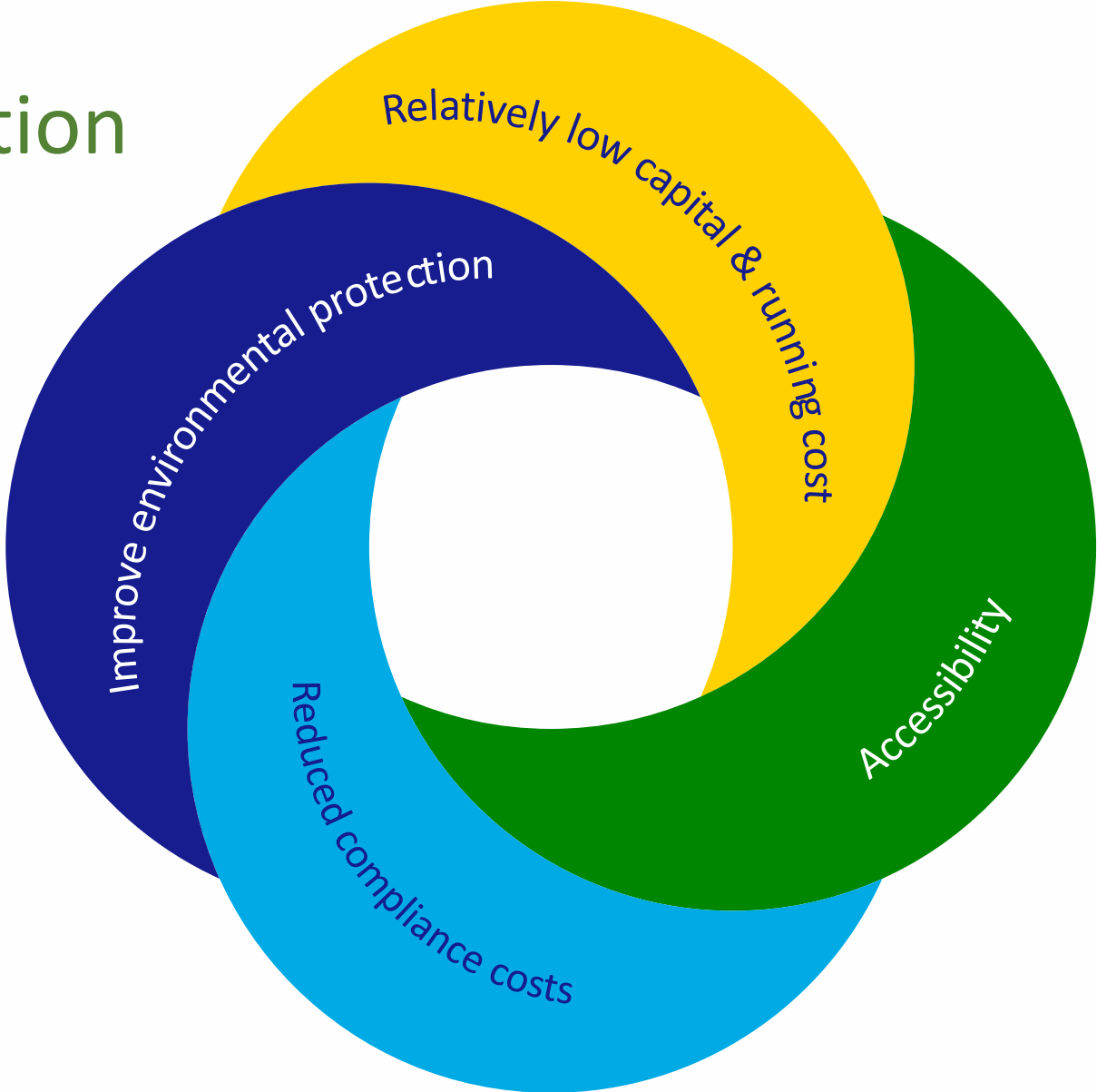
GN R 635, (2013)

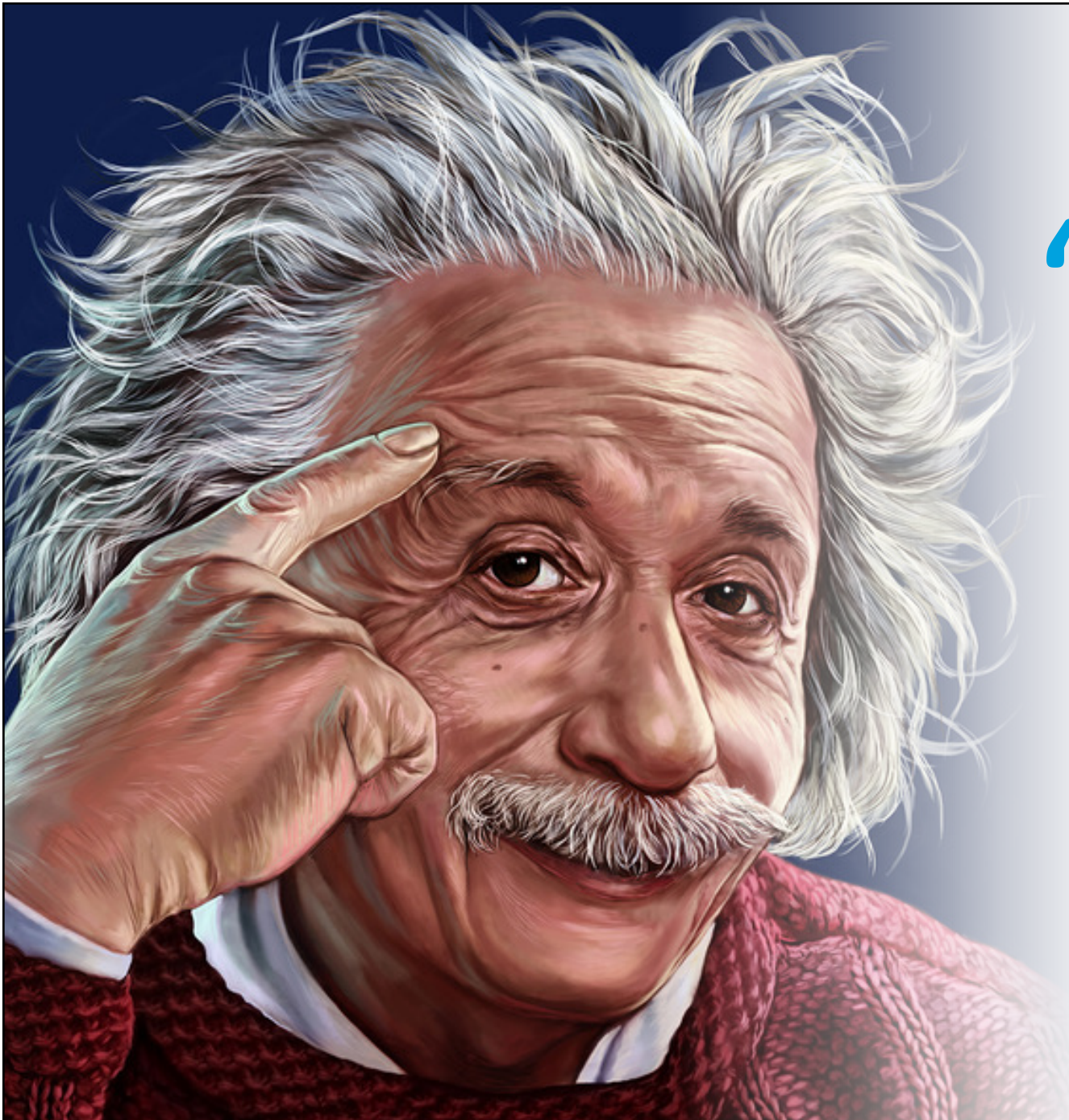


Proposed Approach



Value Proposition





“

The world as we have created it is a process of our thinking. It cannot be changed without changing our thinking.

- Albert Einstein



Thank You!

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