White Light Lasers:
The Next Challenge to Laser Safety

Prepared for:
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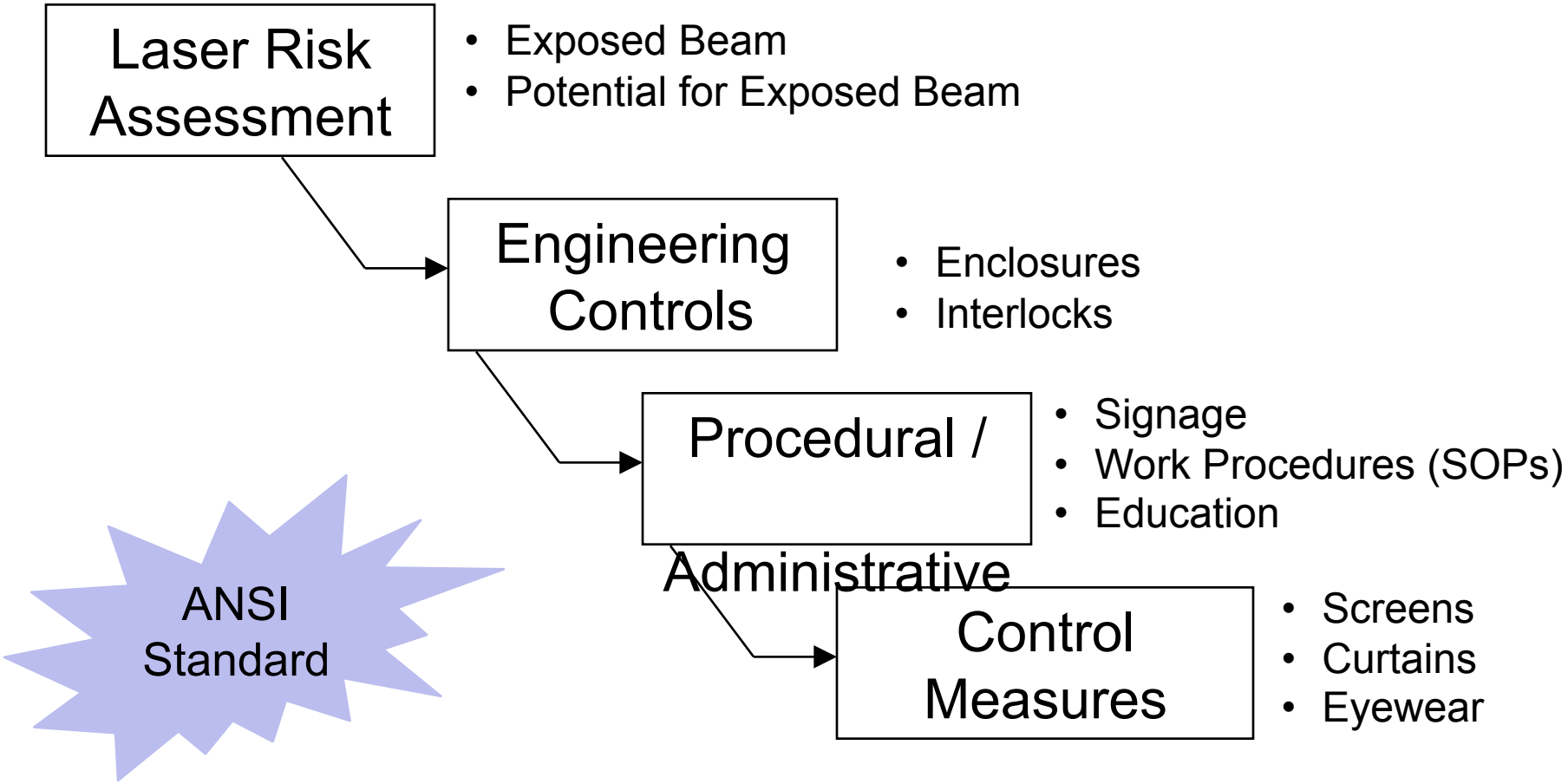
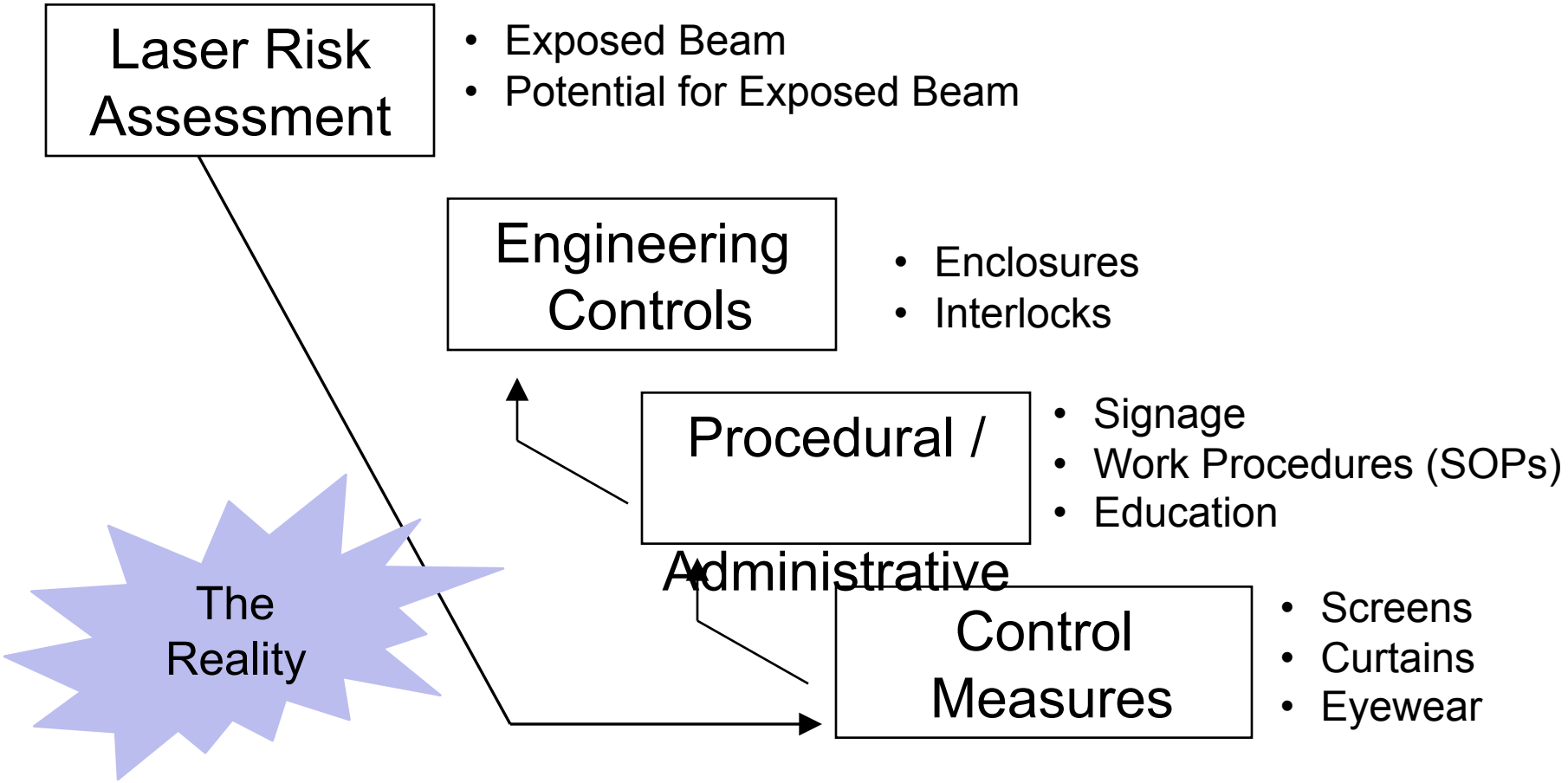
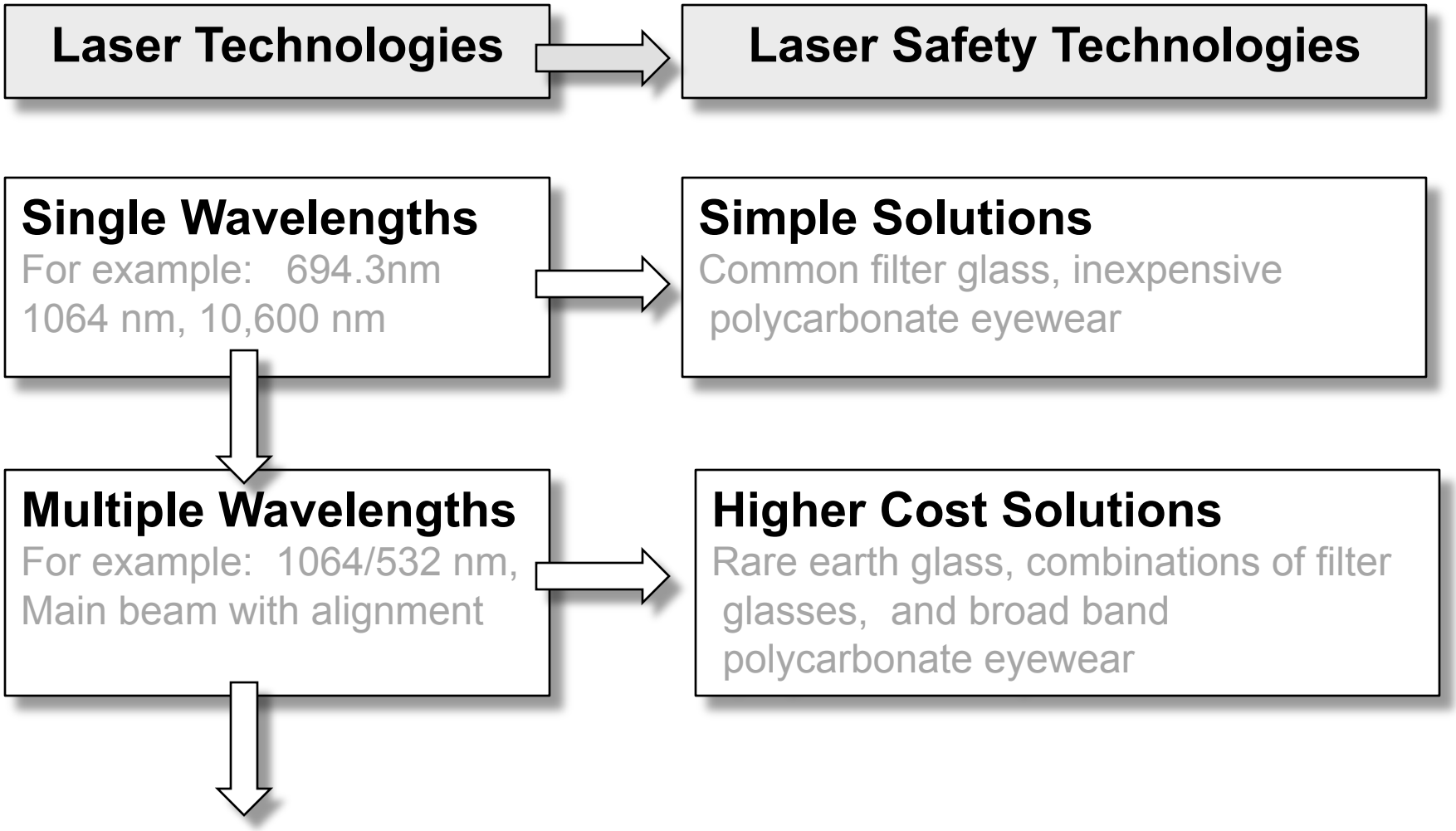
The control measures hierarchy established by ANSI Z136 places a priority on Engineering Controls.



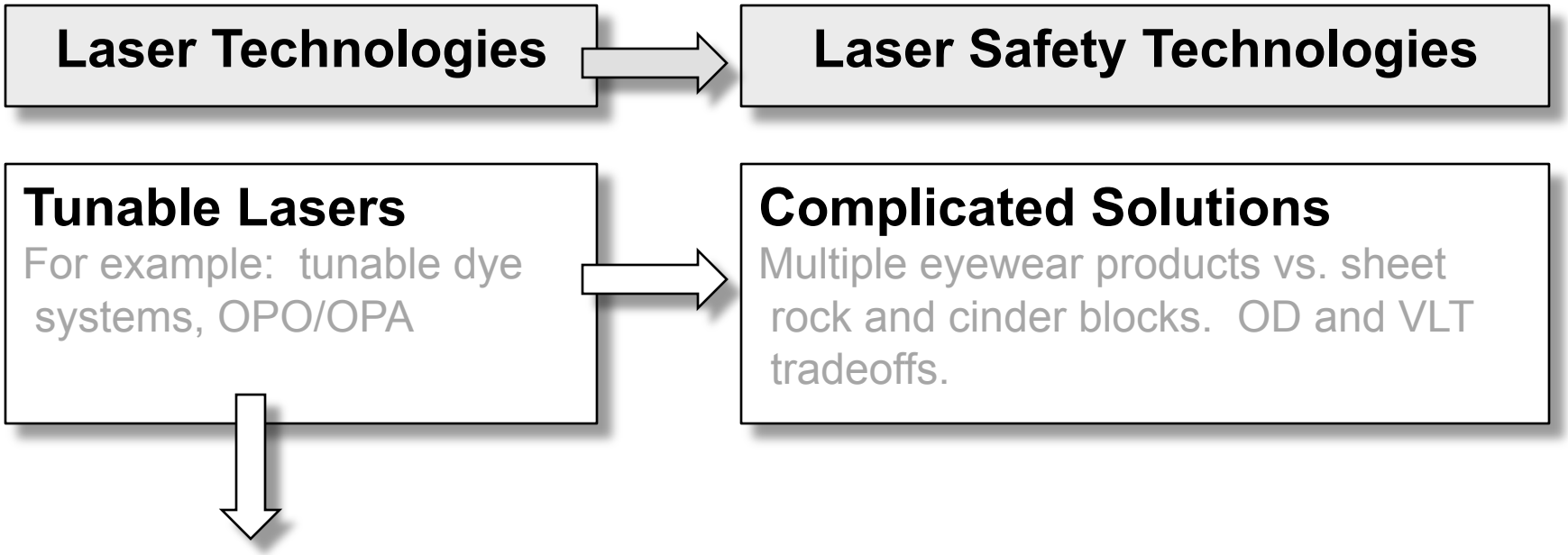
In practice, we often find that it's "easier" to implement Control Measures including PPE, especially in laboratory and research environments.



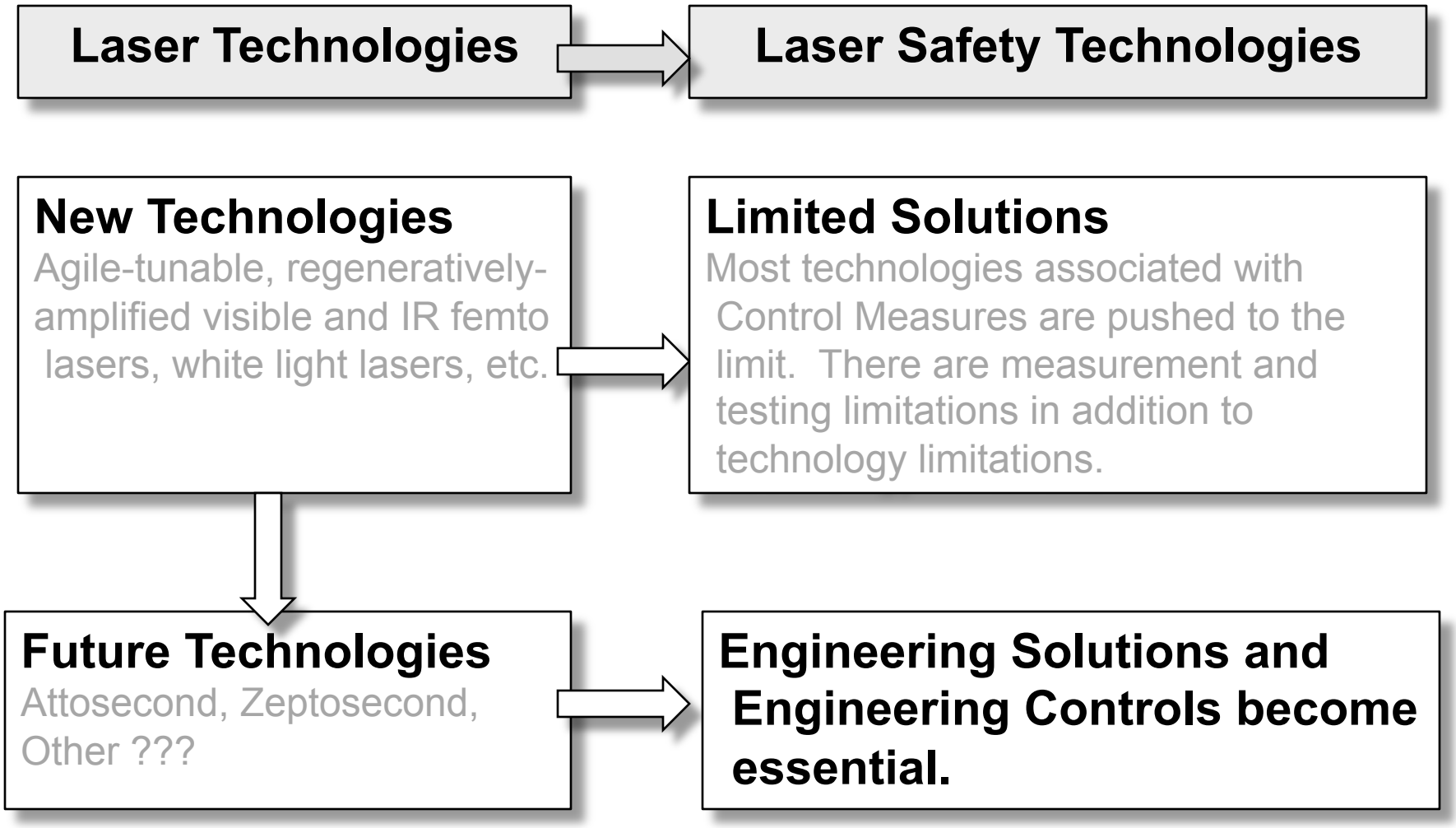
A simplified laser safety timeline – Chapters One and Two



A simplified laser safety timeline – Chapter Three



A simplified laser safety timeline – Chapter Four…and Five?



Implications….

- R&D: How to keep laboratories safe in the future, especially in environments where Control Measures are favored over Engineering Controls?
- Commercialization: How to get new technologies out of the laboratory and into the factory?
- End Users: How to improve safety for end-users?

Implications….

- There exist unique laser safety designs and ideas, but…
  - Rigorous testing of capabilities is costly
  - Test protocols are insufficient or non-existent
  - End customers unwillingly shoulder all costs

…therefore…

- Development work on laser technologies must include:
  - Next Generation Engineering Controls
    - Examples: temperature and radiation sensors, automated beam shutters, embedded cameras or video equipment
  - Next Generation Control Measures and PPE
    - Examples: indirect viewing, holography, coatings for “beam trapping”, etc.