



Australian Government

Department of Health

Therapeutic Goods Administration

Clean Room Requirements for Biologicals

A General Overview of contamination control

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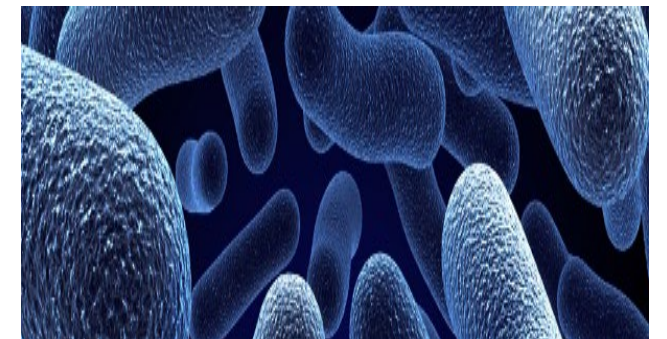
Inspections Section I Manufacturing Quality Branch

Medical Devices & Product Quality Division

Therapeutic Goods Administration

GMP Forum 2021

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TGA Health Safety
Regulation

Outcomes

- General understanding of Clean rooms and their role in contamination control
- General understanding of how Personnel play an essential role in contamination control
- General understanding of how Critical Materials entering cleanrooms can be a source of contamination
- General understanding of Decontamination Programs for contamination control
- General understanding of the importance of environmental monitoring programs in contamination control

Contamination Control and Clause 300

- **Clause 300:-** Premises, facilities and equipment should be located, designed, constructed, adapted, maintained, and suitable for its intended use. Their layout and design should aim to ***minimise the risk*** of errors and permit ***effective cleaning*** and maintenance in order ***to avoid contamination***, build up of dirt and, in general any adverse effect on the quality of the products.
 - In order to ***minimise the risk of microbiological and particulate contamination***, the manufacture of ***sterile products***, or ***products required to have a low bioburden***, should be subject to special ***environmental controls*** (e.g. clean rooms, biological safety cabinets). Where required, applicable code ***clauses in Annex 1 of the mandated Code of GMP for Medicinal Products*** should apply.
 - Premises, facilities and equipment which, is critical to the control of processing should be formally qualified.

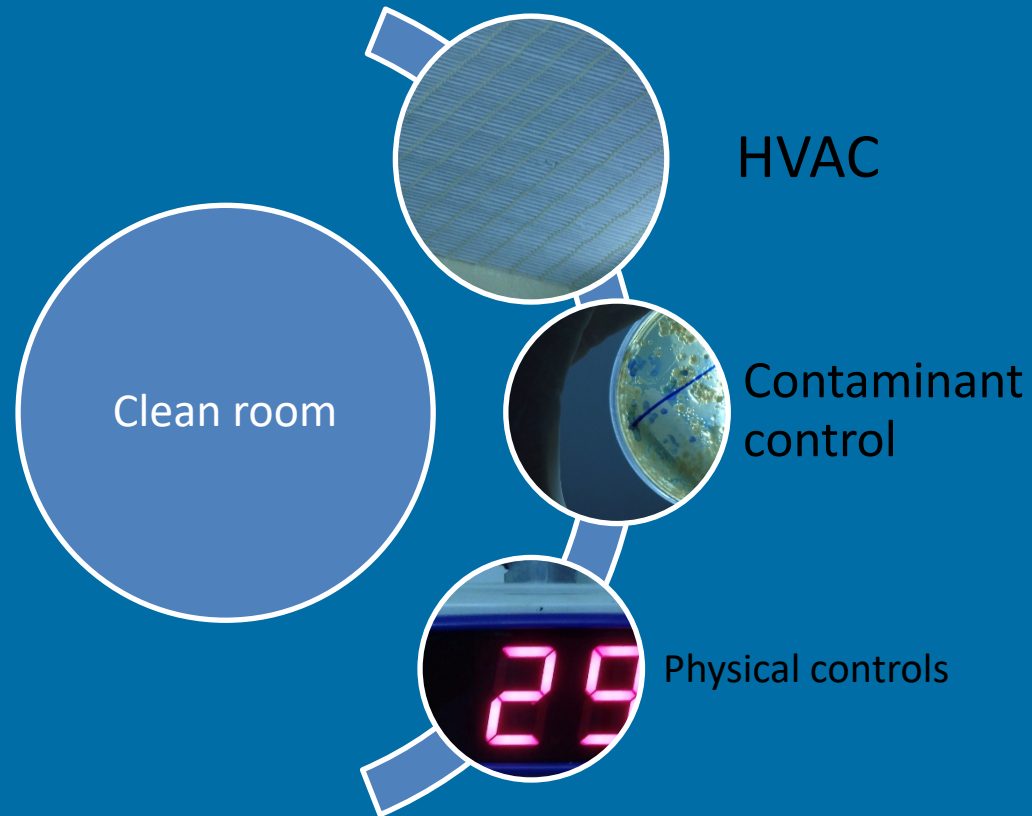
Other applicable Contamination control Clauses: 305, 306, 308, 332, 333, 800, 818, 821, 901, 913

Clean rooms and Clause 300

- ARTG registration:
- Sterile Product- Annex 1 applicable (Class 3 and 4 biologicals)
- Non-Sterile Products (low bioburden)- aseptic minimal manipulation- (Class 2 biologicals)- effective risk based contamination controls required to prevent contaminating products during processing and storage in line with cGMP:



Clean rooms vital to contamination control



Clean room controls

What clean rooms do

Over pressures prevent ingress of contaminants & continuously supply filtered air to each room



Room segregation allows to have differing air quality spaces and prevent contamination via pressure differentials



Clean rooms provide an enclosed space in which airborne particles, contaminants, and pollutants are controlled within limits. In biologicals this means control of microorganisms and non-viable particulates



HEPA filtered air/pressure cascade

Temperature/humidity control

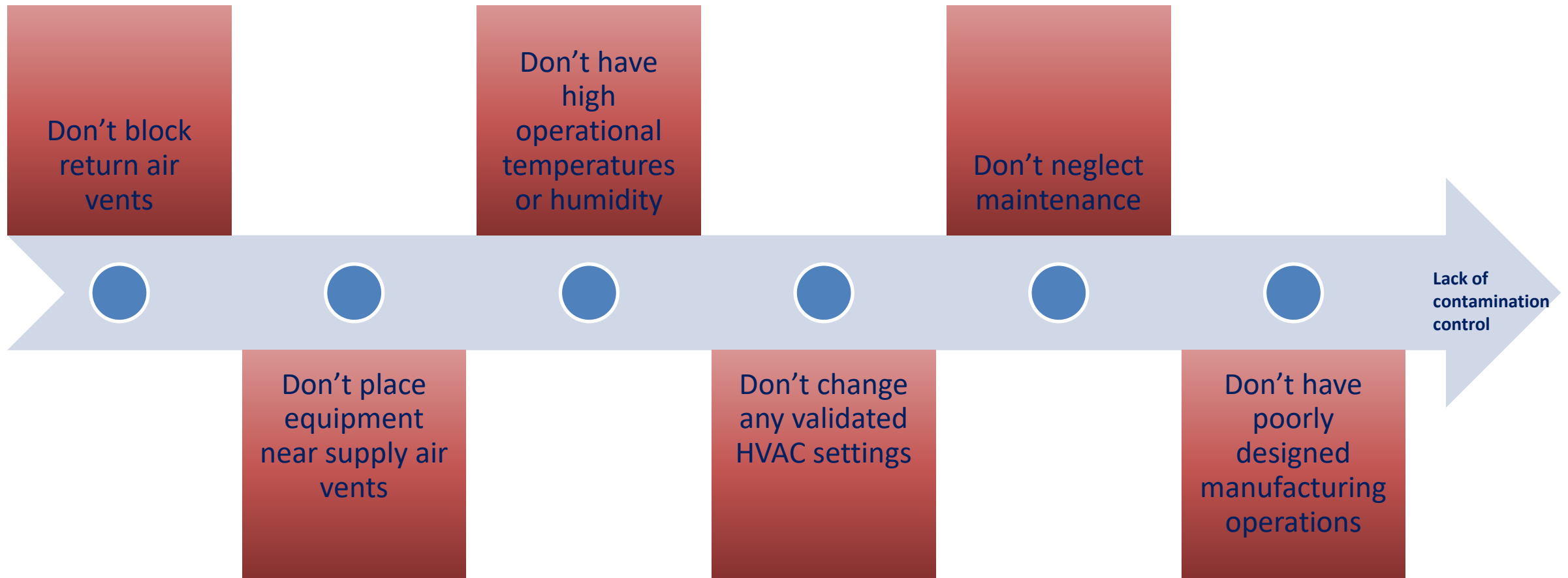


Clean rooms provide an environment that minimises contaminants

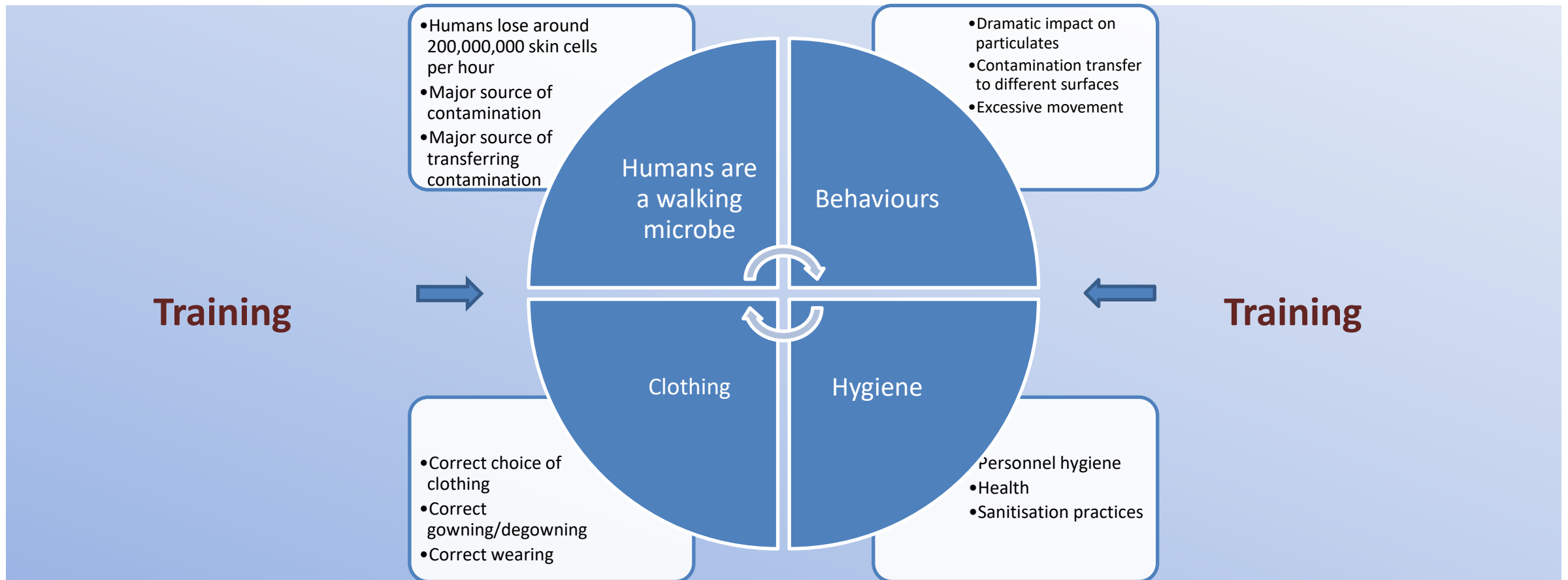


Effective flushing –non accumulation of contaminants

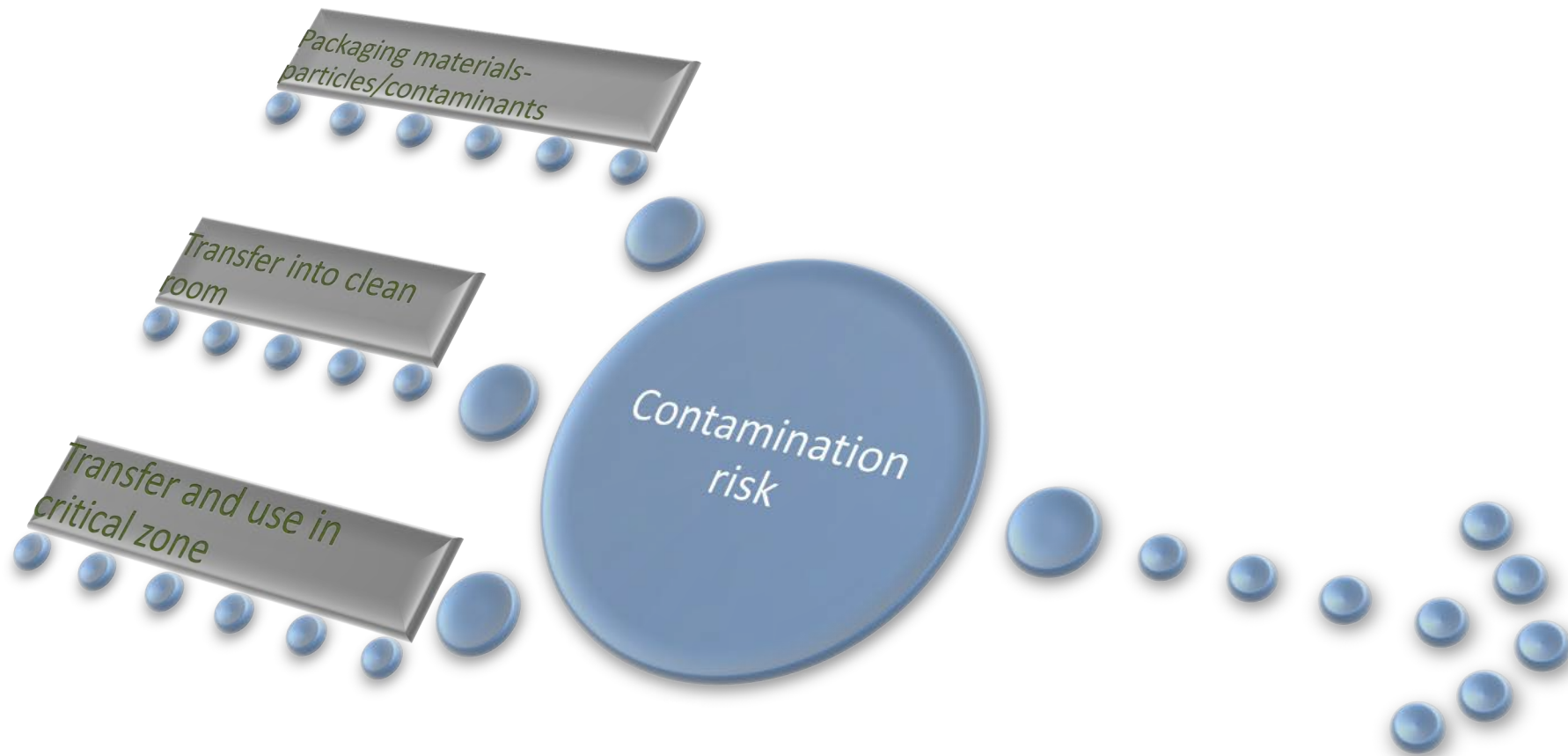
The 'Don'ts' of clean rooms



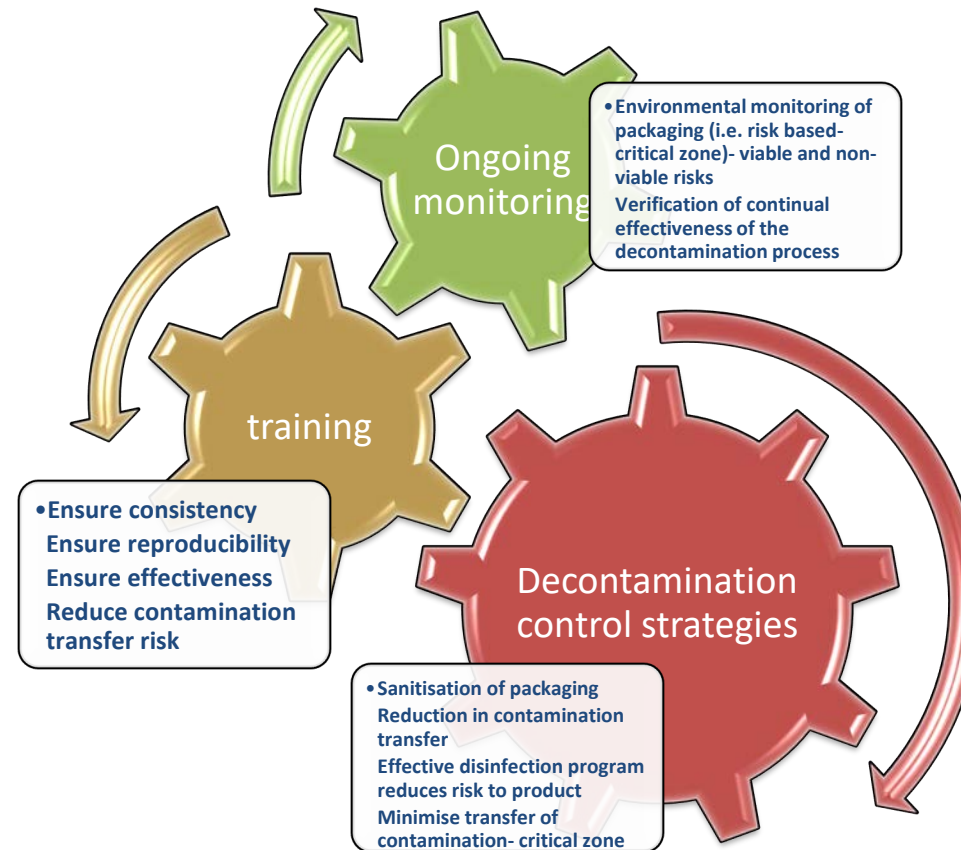
Personnel- A clean room nemesis



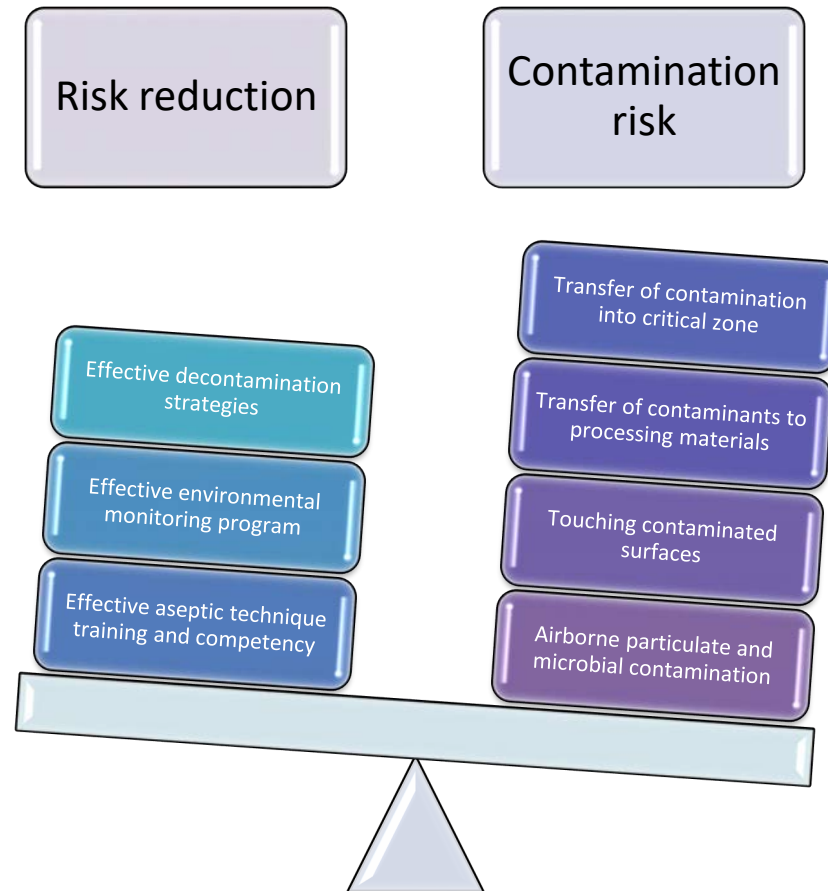
Critical materials- Ghost contaminant



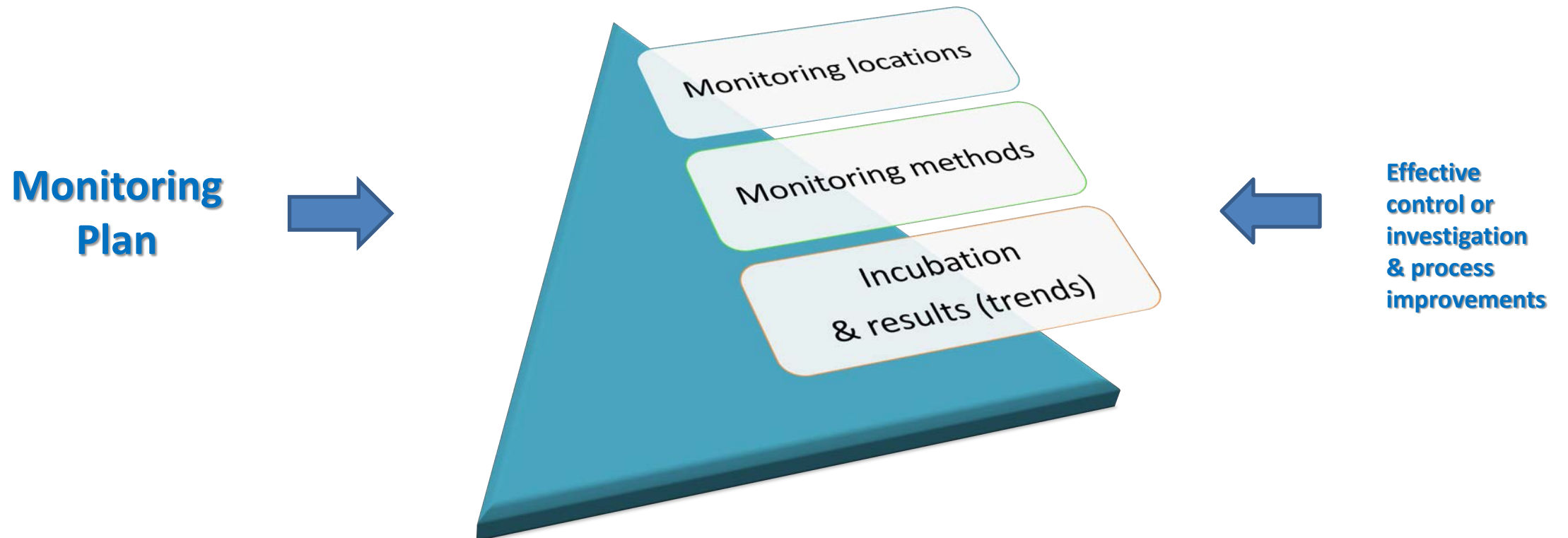
Critical materials- contamination controls



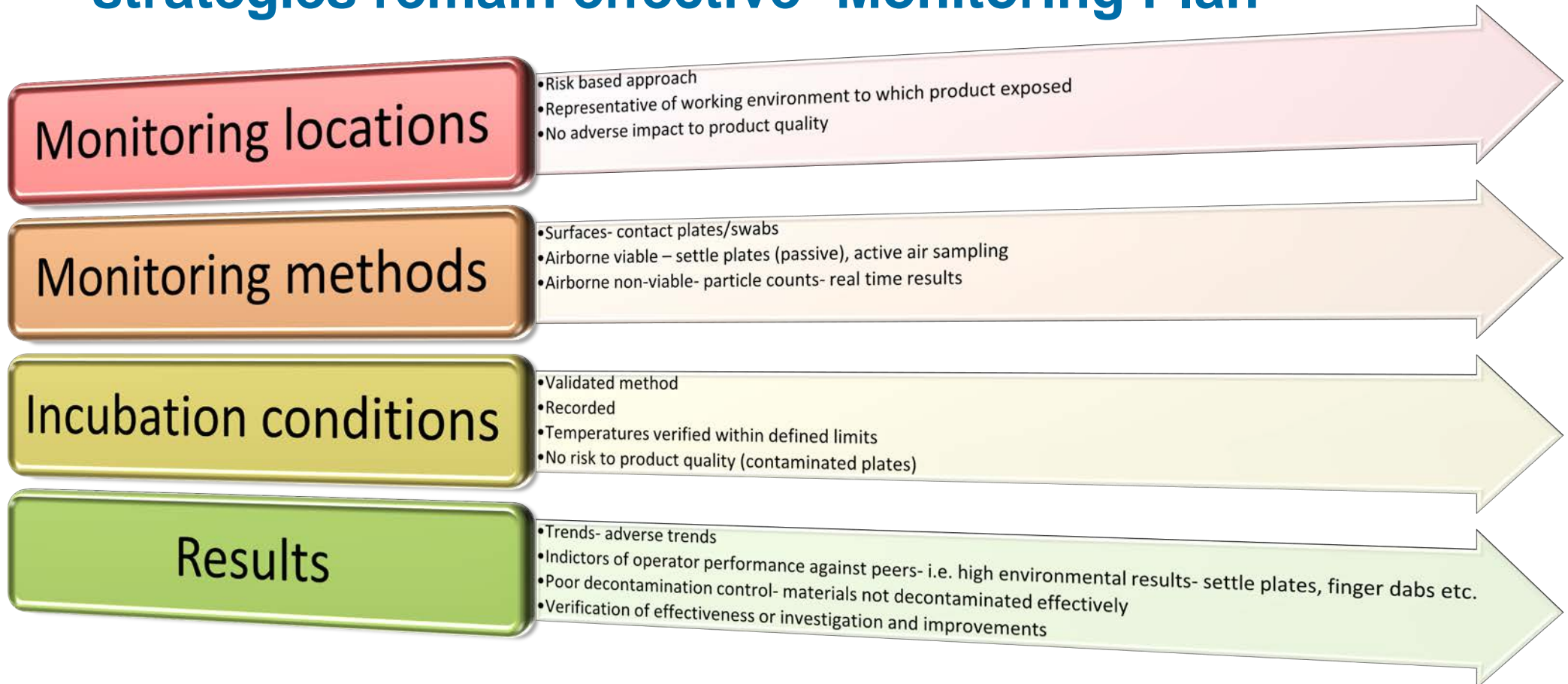
Critical Role of Decontamination



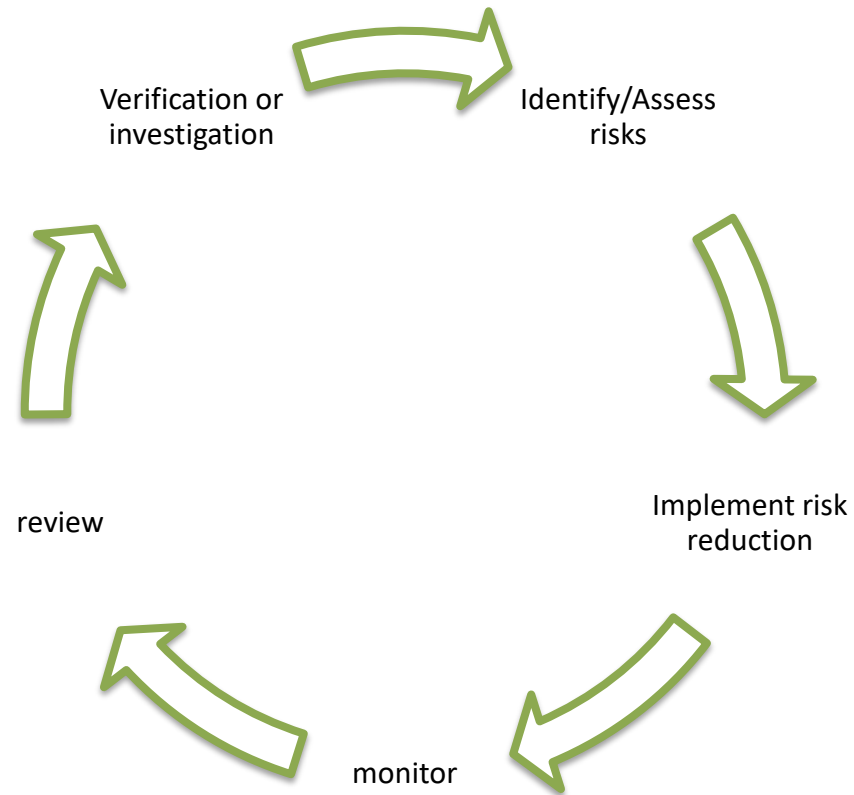
Environmental Monitoring- verifies contamination control strategies remain effective



Environmental Monitoring- verifies contamination control strategies remain effective- Monitoring Plan



Lifecycle approach to contamination control



Contamination Control

Know your
vulnerabilities
(contamination
risks)

- Do you know all your vulnerabilities?
- How have you assessed these vulnerabilities?
- What are your top vulnerabilities?

Keep
vulnerabilities
visible

- Can you automatically detect your vulnerabilities?
- What systems do you use to be proactive?
- Do you have effective tools to assess vulnerabilities?
- Do you have sufficient resources to assess, implement, monitor and mitigate vulnerabilities?
- Do your monitoring tools enable proactive action to adverse trends?

Continually
monitor &
assess risks

- Do you continually assess effectiveness of the control strategy monitoring systems?
- Do you reopen completed risk assessments when deviations & OOS recur?
- Do you take a proactive approach to outcomes of monitoring results?

Trend
analysis

- What trend analysis tools do you use?
- Do you take action when trends display an upward trend before limits are exceeded?
- Are you able to identify and trend key contamination sources?



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