



Veterinary novel therapies and technologies

“..to boldly go where no one has
gone before..”

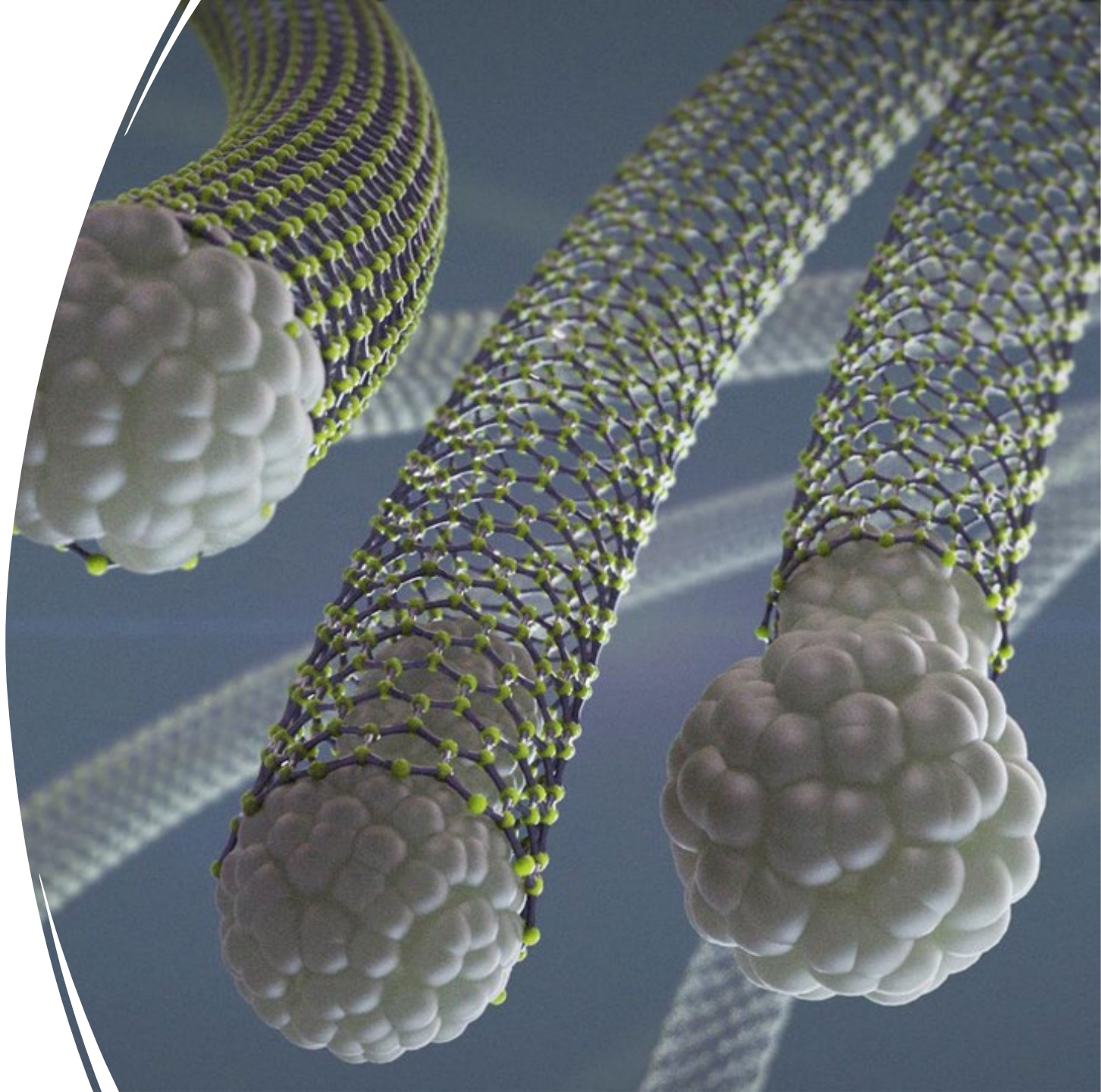
Novel therapies and technologies

- Any technology not currently used in veterinary medicines
- Nanotechnology
- Bacteriophages
- Gene therapy
- Cell-based therapy
- ...?



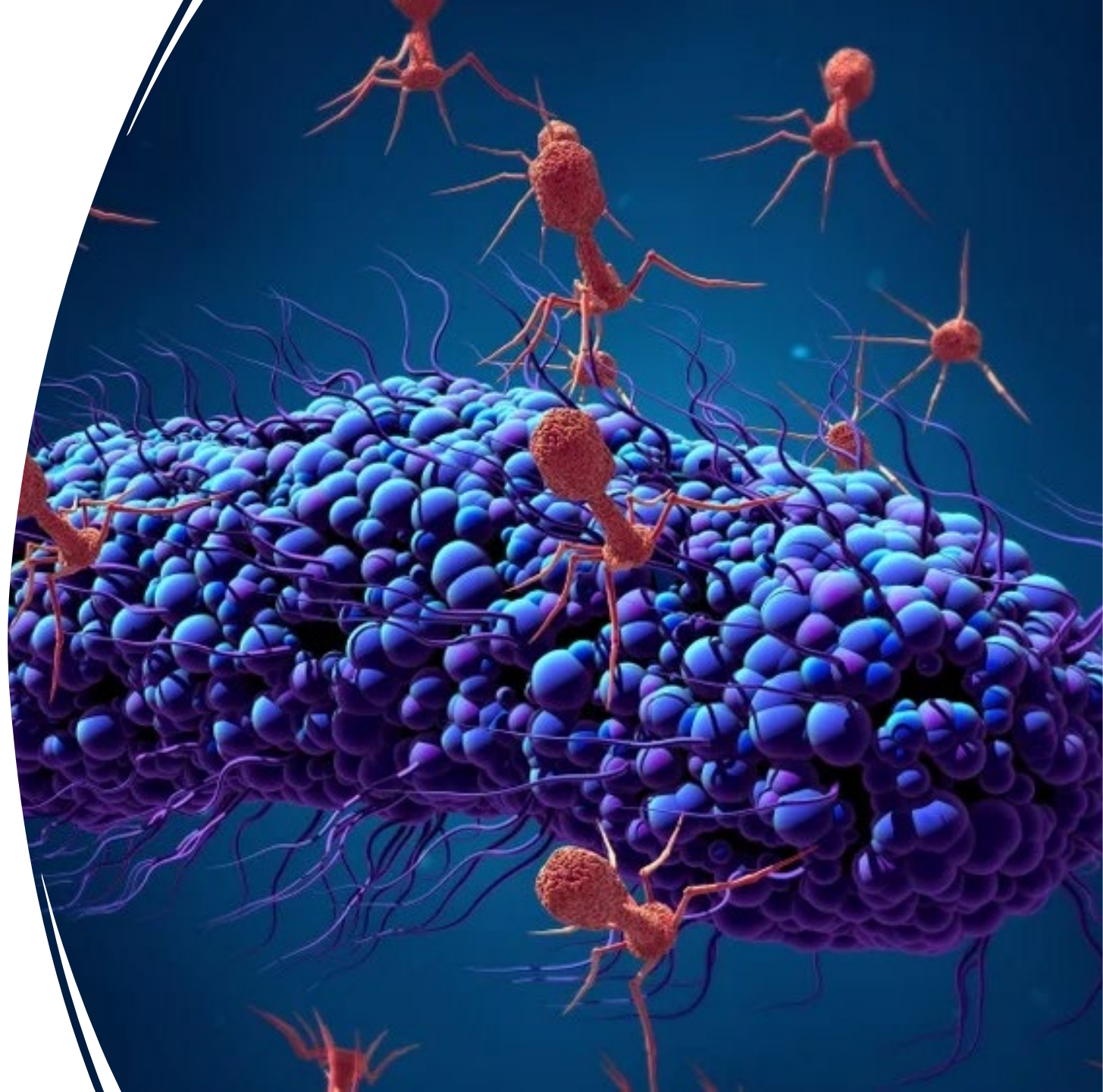
Nanotechnology

- Substances at nanometer scale, with particular properties because of nanoscale dimensions.
- *Nanoantibiotics*. Nanostructures may act synergistically with antibiotics
- Nanoparticles as delivery systems or *adjuvants* for vaccines
- Nanoparticles as *targeted drug delivery* systems
- *Nanosensors*, for earlier or more accurate detection of disease or infection



Bacteriophages

- Particular viruses that infect only Bacteria and have the ability to kill their host



Bacteriophages

Bacteria and bacteriophages are in a continuous evolutionary arms race.

- Bacteriophages force bacteria into defensive action (which may weaken them in other areas)
- Bacteria adapt to combat infection by phages
- New bacteriophage variants evolve...etc.



Application of bacteriophages

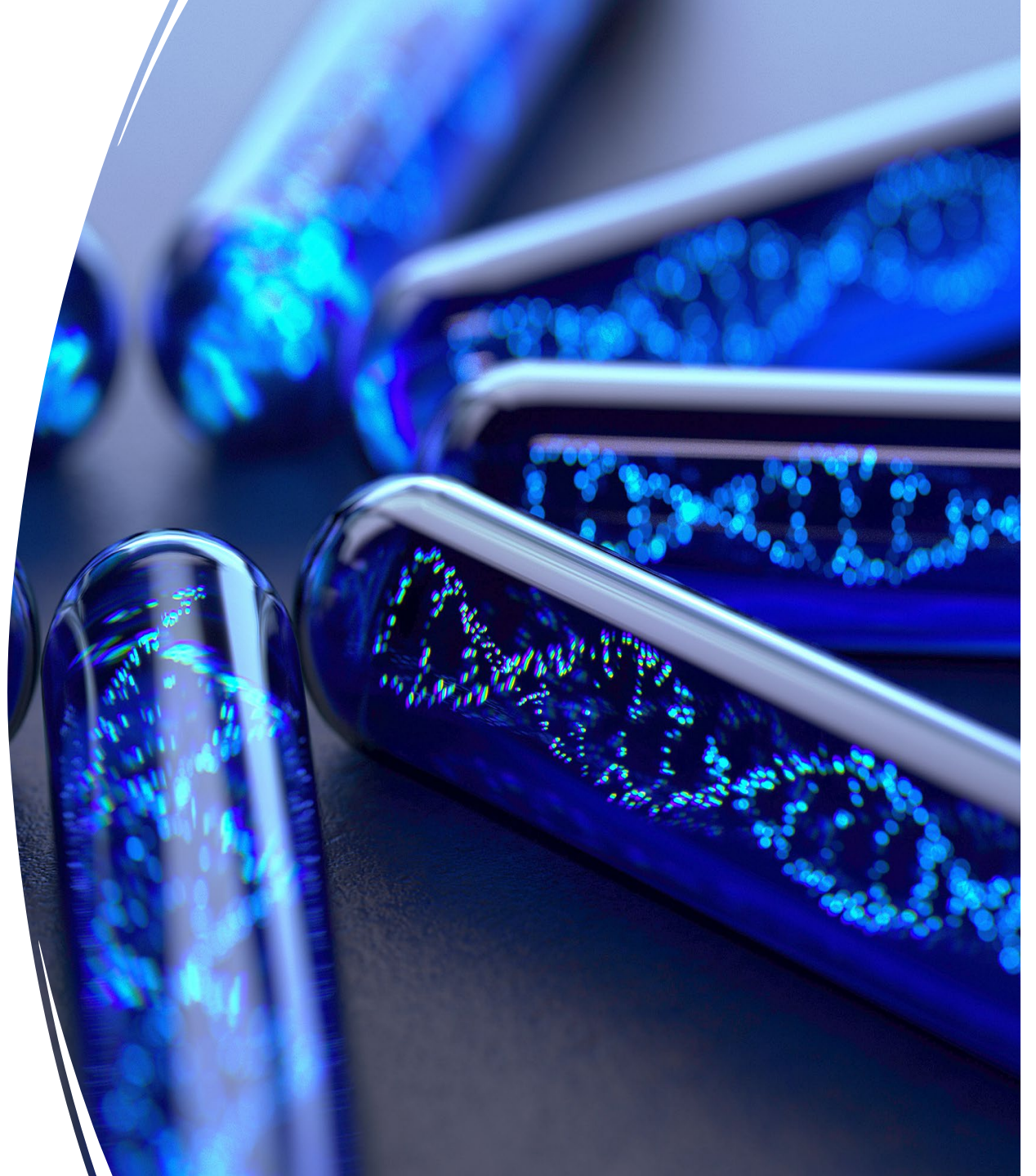
- bacteriophages are applied in humans and animals with some success
 - Often only to specific patients, for a limited time
 - wider application may be possible
- Complete cure of an infection may not always be the goal:
 - decontamination (of the environment or of feed/food)
 - use in conjunction with antibiotics (enhancing the susceptibility of bacteria)



Genetherapy in veterinary medicine

Potential future targets :

- inherited diseases/genetic defects (i.e. ocular, metabolic)
- wound healing
- Fertility regulation
- chronic diseases (osteoarthritis, diabetes, allergy, renal, ocular) and neoplasms



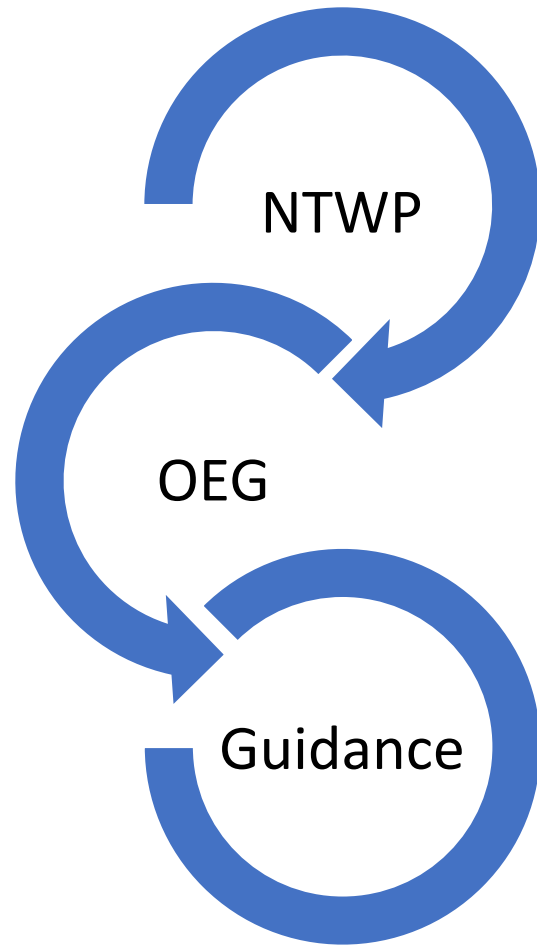
Novel Therapies and technologies Working Party

Regulation (EU) 2019/6

“Taking into account the specificities of novel therapy products, specific requirements additional to the standard requirements for evaluation of quality, safety and efficacy may be appropriate.”



Novel Therapies and technologies Working Party



NTWP

Guidelines to be developed (subject, scope)

Horizon scanning

Supervise work of the OEGs

Operational Expert Groups

OEG for each topic

experts in veterinary and human field; from academia, institutions, national authorities

Guidance published after approval by CVMP:

Used by developers and the authorities

Recent / future Guidance by NTWP

- Development and data requirements of potency tests for cell-based therapy products and the relation to clinical efficacy (published)
- Quality, safety and efficacy of bacteriophages as veterinary medicines (final stages prior to publication)
- Safety of nanomedicines (early stages: concept paper under development)

Thank you for your attention!

