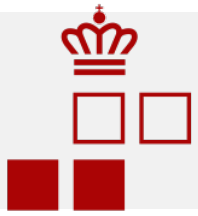


CENTRE FOR
**BIOSECURITY AND
BIOPREPAREDNESS**

Biosecurity and dual-use in practice in Denmark

Cyril Martel, Ph.D.
Biosecurity Division

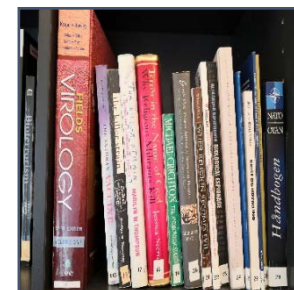
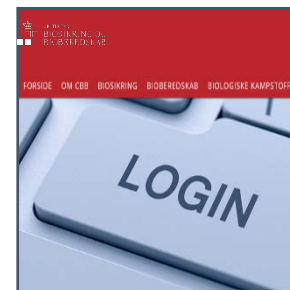


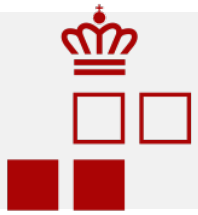
Center for Biosecurity and Biopreparedness (CBB)

- National authority with regulatory powers under the Ministry of Health
- Works with prevention of, and response to, misuse of biological material
- Staff with background in biosciences, engineering, history, political science, operational/military



Fotos: CBB

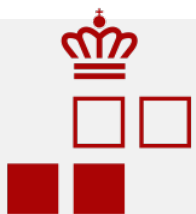




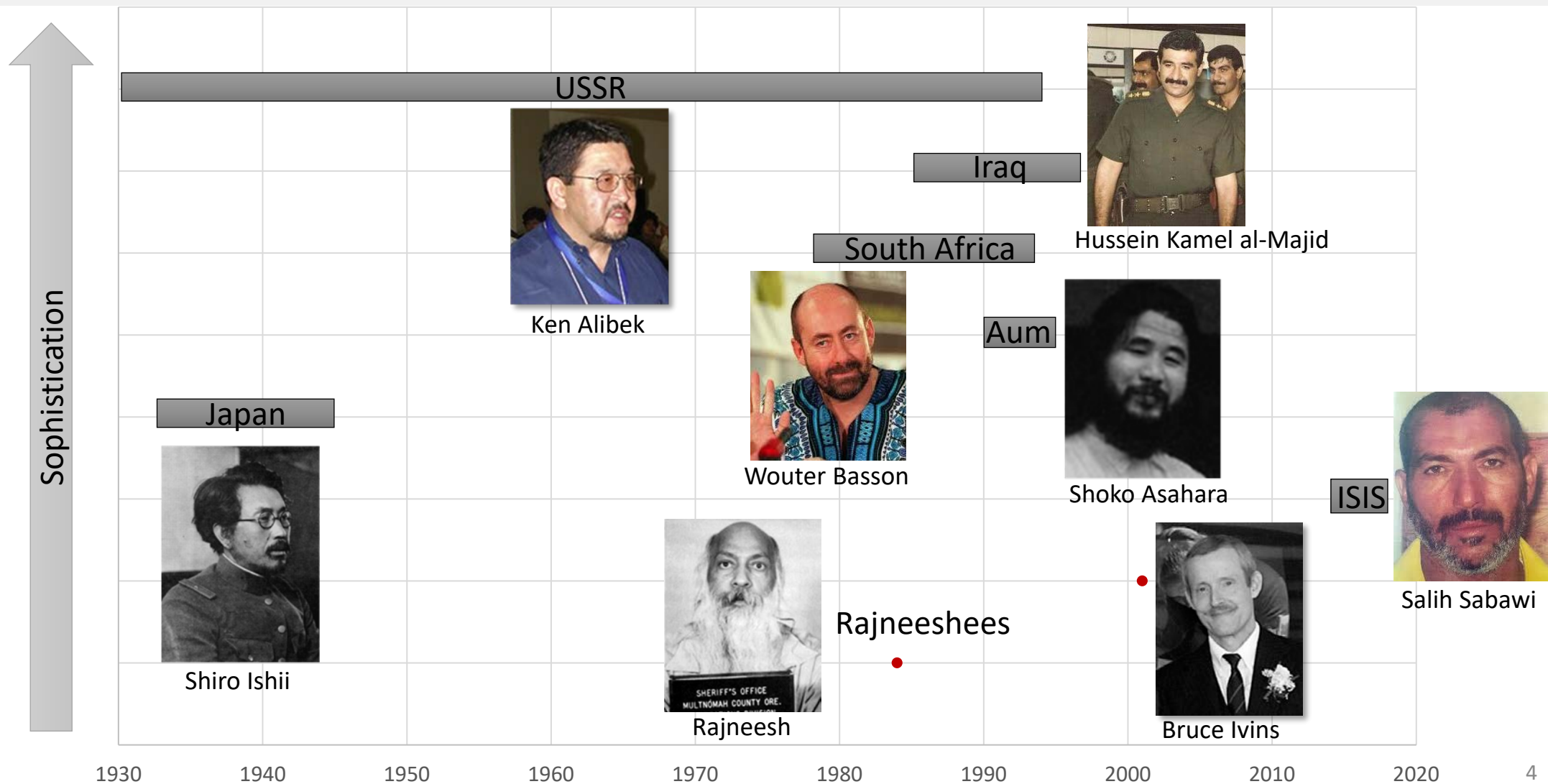
Biosecurity: the goal

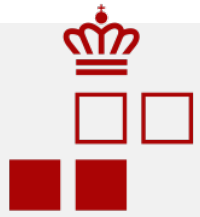
Preventing a terror attack involving the use of biological weapons in Denmark





A very short history of BW



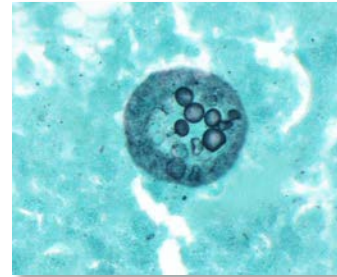
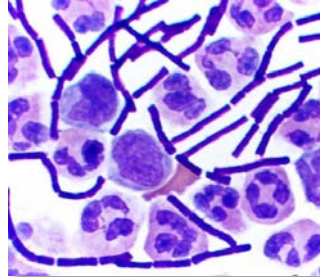


From agent to weapon...

Agent



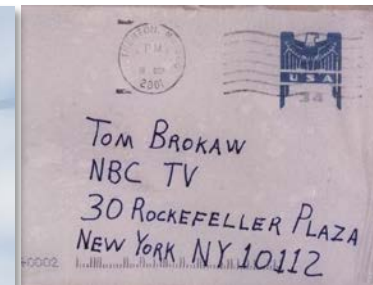
Virus, bacteria,
fungi, toxins

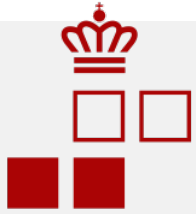


Weaponized
Agent

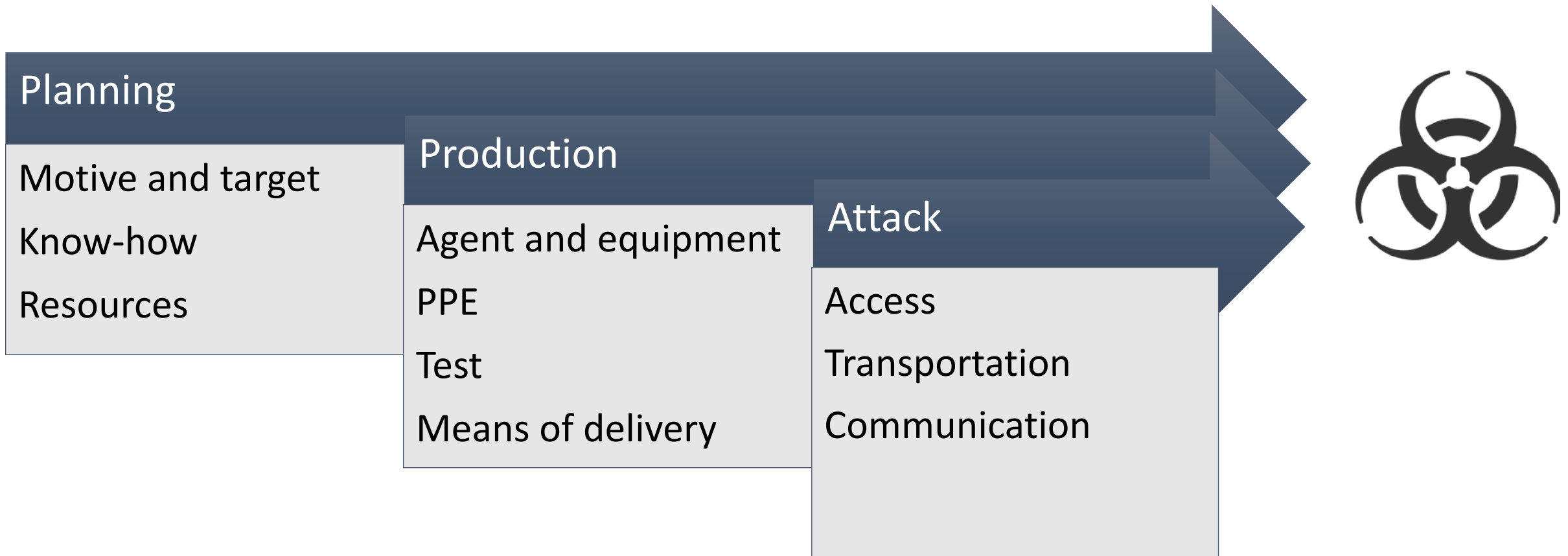


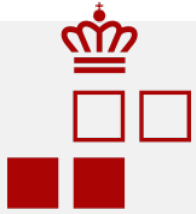
Biological
Weapon



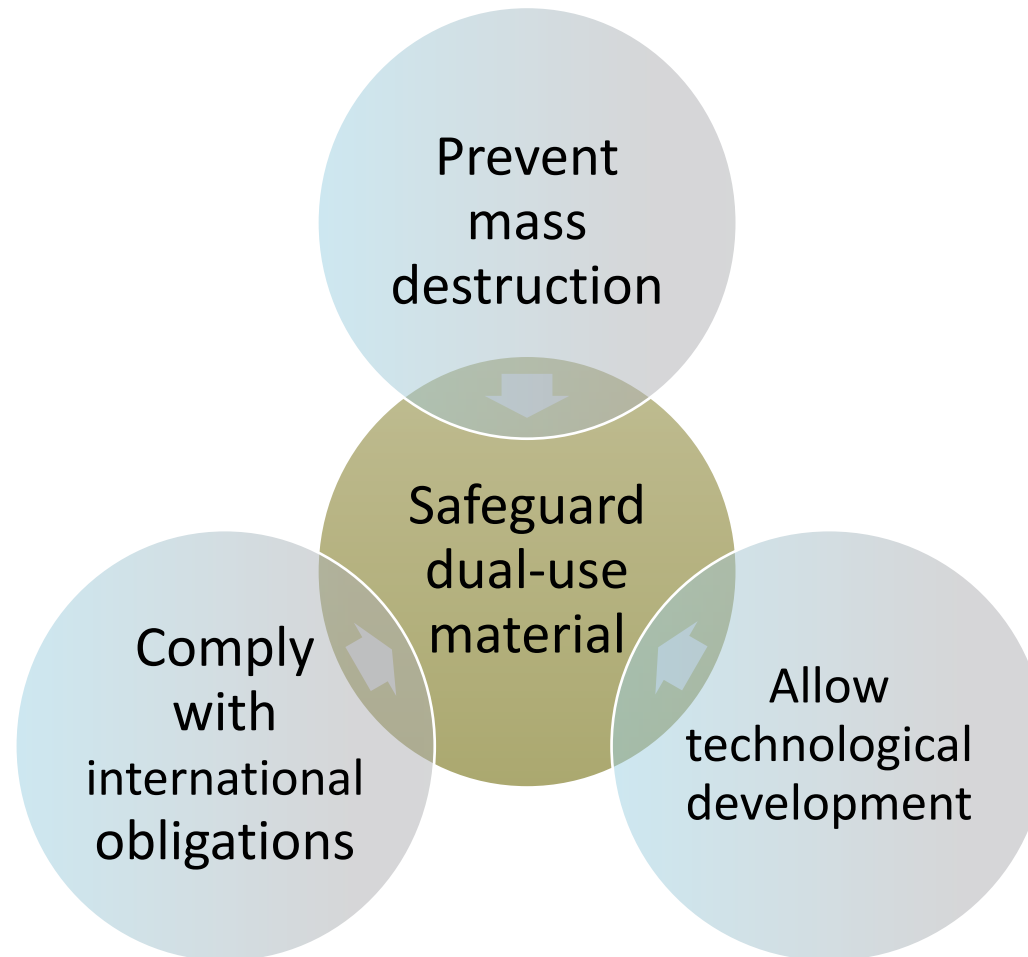


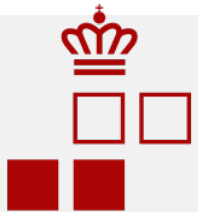
... to attack



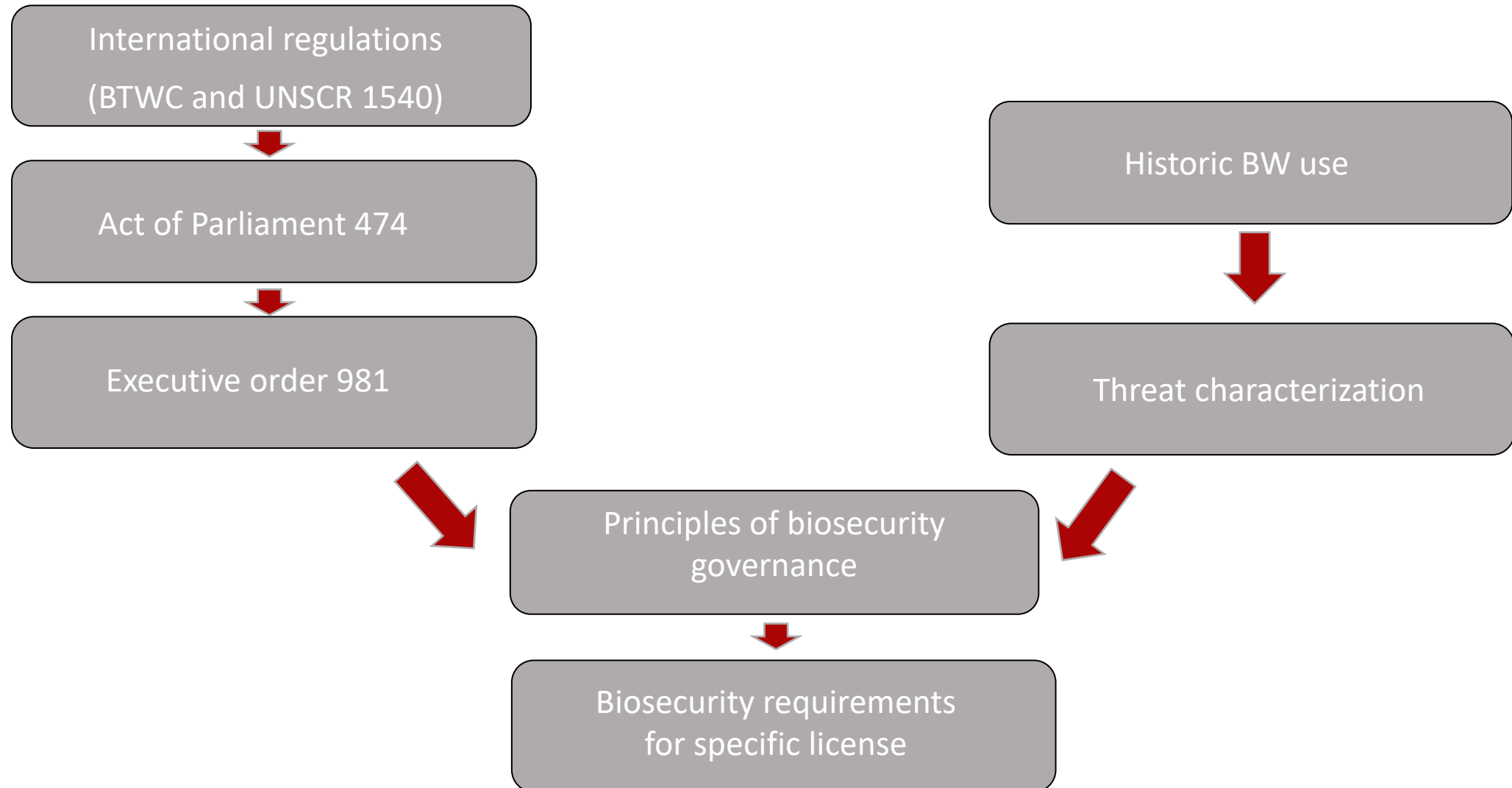


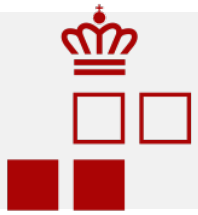
A delicate balance





A risk-based approach





CBB works with various institutions



Research institutions



Dairy industry



Clinical diagnostic laboratories

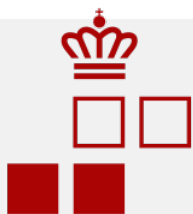


Biotech and medical industry



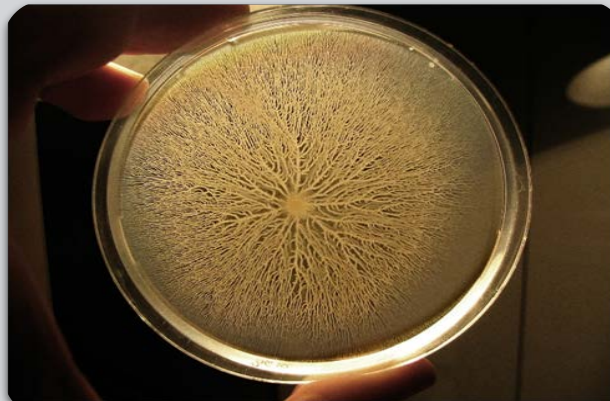
Retailers of biological agents or dual-use equipment





Controlled materials

Based on the Australia Group common control lists



Biological agents

- Virus
- Bacteria
- Fungi
- Toxins
- Genetic elements



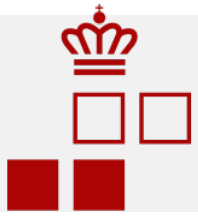
Equipment

- Fermenters
- Freeze/spray dryers
- Filtration equipment
- Delivery systems



Technology

Data, software, knowledge,
or skills



Problems...

No purification
or
weaponization



Non-
pathogenic
strain

Ineffective
delivery
method



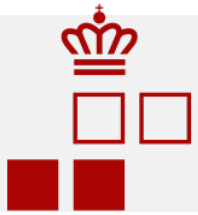
Difficult to
contain

Can
contaminate
own population

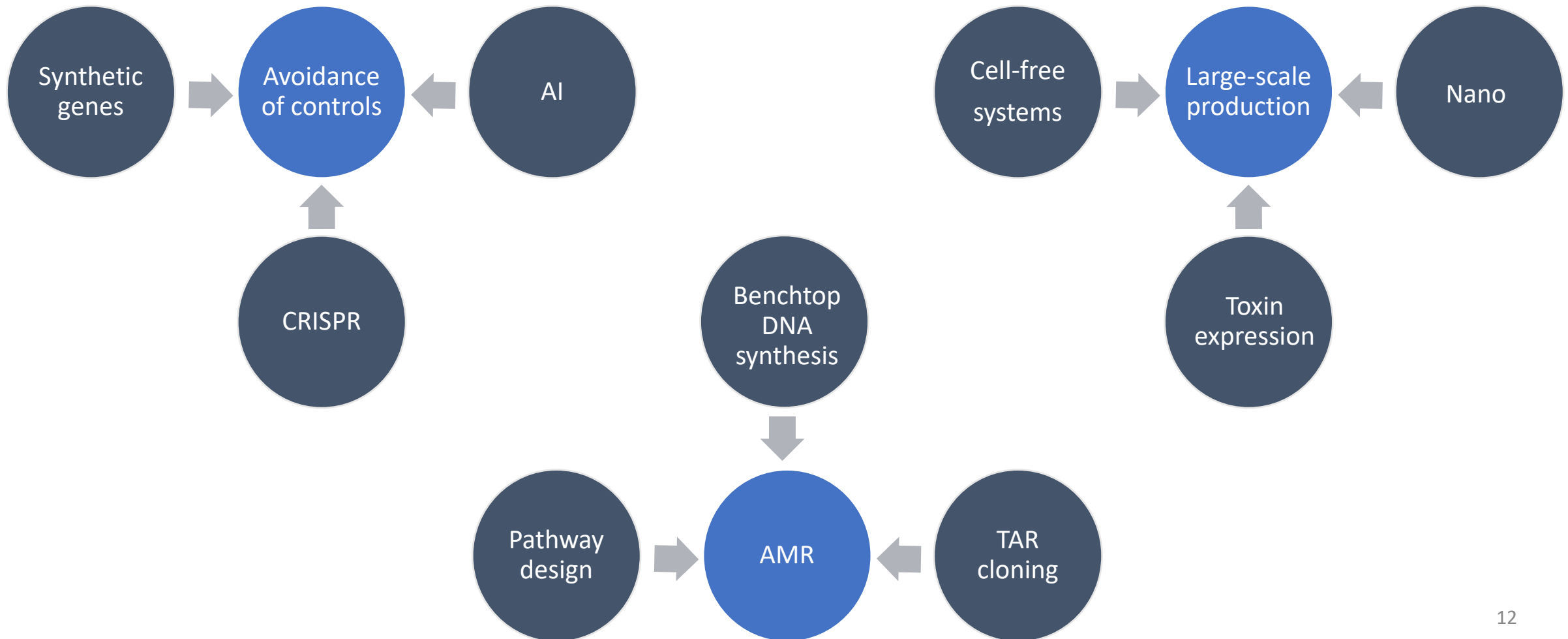


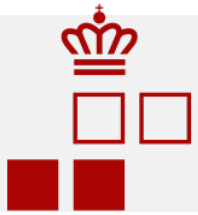
Small-scale
production

Primitive extraction
methods

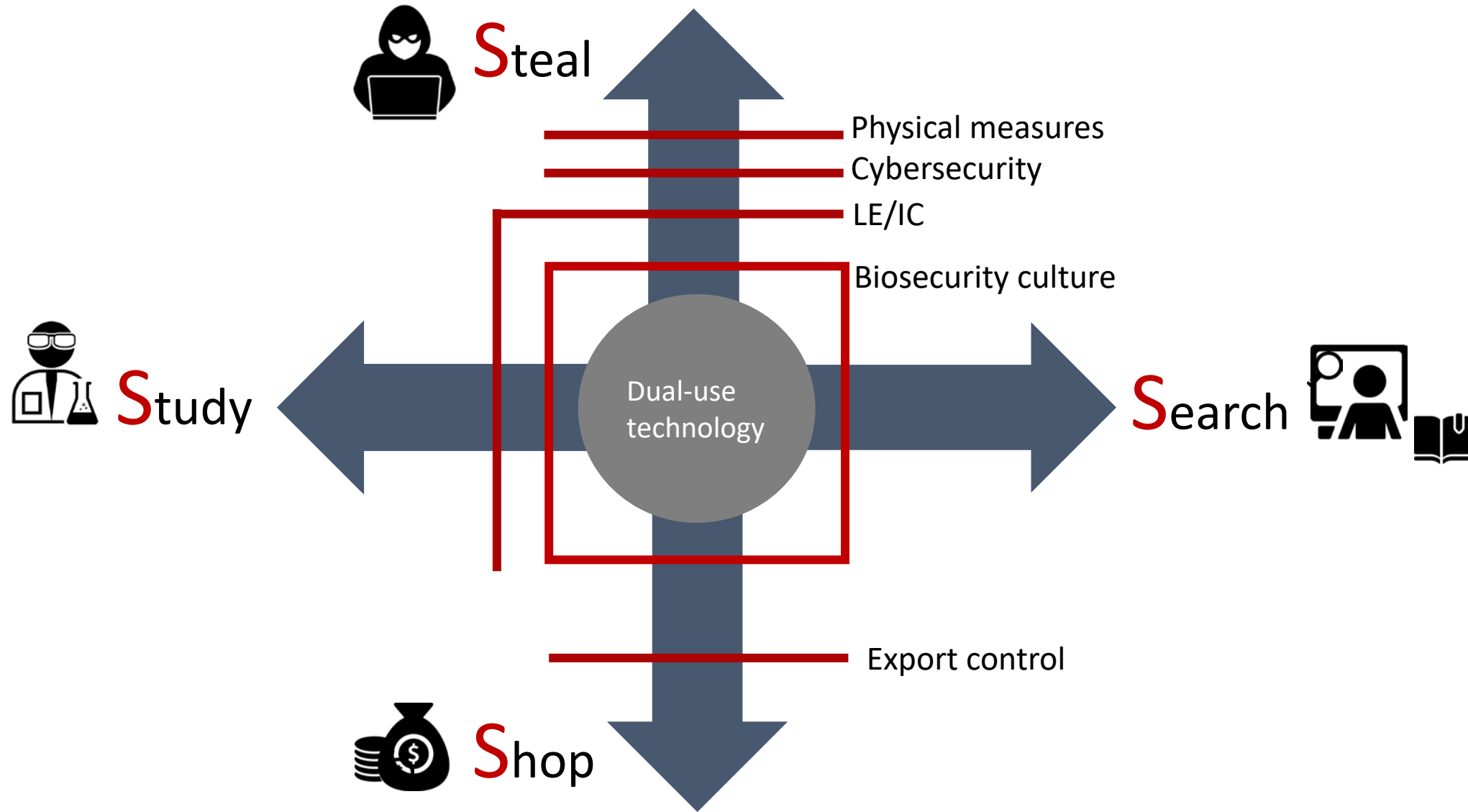


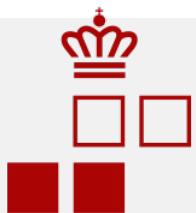
...and solutions



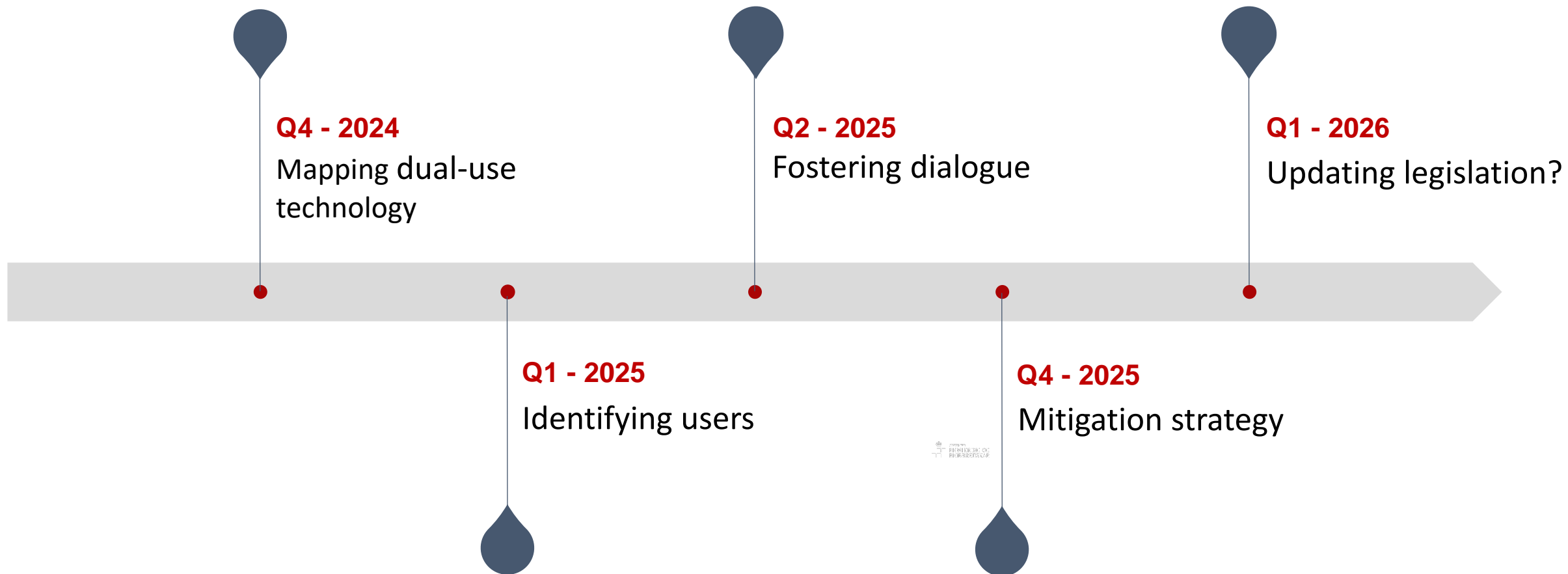


Technology leakages





Next steps



Thank you for listening - any questions?



www.biosecurity.dk

cbb@ssi.dk