International Reference laboratory and Collaborating Centers Networks: Challenges and Benefits
**Definition of network**

- A system connected by communications lines
- An interconnected group or association of persons
- No formal procedure for the creation and management of OIE Reference Laboratory/Collaborating center networks

*Merriam-Webster’s dictionary*
Why OIE networks

- Worldwide problems = worldwide response capabilities
- Build trust working together and sharing resources
- Create consensus on standards based on scientific principles
- Networking has *an added value per se for all participants* as it makes it possible to tap on peer level competence and resources
NETWORKING AND WORK TOGETHER
OIE Network main Objectives

- To develop the culture
  - of inclusiveness vs. the culture of exclusion & supremacy *(the bad example of some networking)*
  - of knowledge sharing vs. the culture of knowledge ownership
  - a cohesive architecture based human and institutional interconnectivity vs. ANY hierarchical organization

- Generate information and knowledge based on high scientific standards and consensus

- Exchange data

- Exchange of reference & diagnostic material, strain, sera, etc.
OIE Network main Objectives

- Develop common research
- Develop and validate methods and standards
- Organize inter-laboratory testing as required by OIE & ISO/IEC 17025
A core of OIE Reference Laboratories and Collaborating Centres working in a coherent way strictly within OIE framework.

The aim and the Term Of Reference of the network must be clearly defined as well as its responsibility of fulfilling OIE mission and principles.

The Core should expand to include other National Reference Laboratories as well as relevant National Reference Centers (i.e.: epidemiology centers) to create a worldwide net of “strongholds” to be used strategically for animal diseases and zoonosis surveillance and control.
Meetings as well as e-technology should assure effective communication as well as transparency of action and accountability to all members as well as to the OIE.

- Governing bodies
  - Relevant OIE Commissions
  - A steering committee
  - A secretariat in one of the OIE RC or CC

- Liaise through OIE with other world wide and regional network (i.e.: FAO, WHO, etc.)
OIE Twinning as a tool for capacity building
OIE Twinning as a tool for capacity building

- Share knowledge
- Build up skills
- Development & validation of diagnostic tests “fit for purpose”
  - Technically & economically
- Development of control tools “fit for purpose”
  - Technically & economically
The availability of standard reagent is essential both for diagnostic testing, laboratory quality assurance and vaccine testing.

Reference material (i.e.: sera, antigens and standard strains) should be validated jointly and made available by the OIE-Reference Laboratories for the various diseases. Networking could be a key issue in this endeavor.

A catalogue of these materials should be compiled.
LABORATORY QUALITY
BIO-SAFETY AND BIO-SECURITY
The "significance" of OIE quality standard should be clarified as to avoid the idea of the existence of two international standard on laboratory quality assurance.

The need to integrate the bio-safety and bio-security Chapters to the Quality assurance Chapters 1.1.2 and 1.1.3.

The need of making clear that accreditation of the OIE-Reference laboratory to quality standard is a *requirement*. 
Laboratory quality, bio-safety and bio-security

- The need of organizing inter-laboratory proficiency testing for the OIE-Reference laboratories should be evaluated
- The need for OIE training program on laboratory quality, biosafety and biosecurity
- The need to strengthen the laboratory component in the PVS evaluation
Develop laboratory based OIE surveillance networks

- Disease specific
- Cost-efficient and effective laboratory based surveillance as well as help sustain the laboratory
- Surveillance standard
- Information on the “event” besides the identification of agents
- Provide vital and supplementary information to OIE World Animal Health Information System (WAHIS)
- Provide technology and scientific knowledge
- Develop a truly international culture and methods on animal diseases [and zoonosis] surveillance and control
Thank you
<table>
<thead>
<tr>
<th>Disease</th>
<th>Tests</th>
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<tbody>
<tr>
<td>African horse sickness</td>
<td>ELISA, Virus neutralization</td>
</tr>
<tr>
<td>Aujeszky's disease</td>
<td>CFT, Indirect &amp; Competitive ELISA</td>
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<tr>
<td>Contagious bovine pleuropneumonia</td>
<td>AGDT</td>
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<tr>
<td>Equine infectious anemia</td>
<td>ELISA</td>
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<tr>
<td>Bluetongue</td>
<td>ELISA, RBT</td>
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<tr>
<td>Bovine brucellosis</td>
<td>CFT, RBT</td>
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<tr>
<td>Brucella abortus</td>
<td>Competitive ELISA</td>
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<tr>
<td>Anti-brucella melitensis (ISaBmS)</td>
<td>CFT</td>
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<tr>
<td>Brucella ovis</td>
<td>Virus neutralization</td>
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<tr>
<td>Classical swine fever</td>
<td>AGDT</td>
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<tr>
<td>Enzootic bovine leukosis</td>
<td>ELISA</td>
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<tr>
<td>Enzootic bovine leukosis</td>
<td>HI, Single Radial Haemolysis</td>
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<tr>
<td>Equine influenza</td>
<td>Antigens antisera for in vitro standardization of vaccines</td>
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<tr>
<td>Equine Influenza</td>
<td>Virus neutralization</td>
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<tr>
<td>Equine viral arteritis</td>
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OIE-APPROVED INTERNATIONAL STANDARD SERA

- Peste des petits ruminants
- Rabies
- Rinderpest

- ELISA
- Fluorescent antibody virus neutralisation
- ELISA, Virus neutralization