Dr Elisabeth Erlacher-Vindel

Head of the Antimicrobial Resistance and Veterinary Products Department

Mycobacterium bovis at the Animal-Human Interface

International Meeting on Emerging Diseases and Surveillance
9-12 November 2018
Vienna, Austria

History of the OIE

An intergovernmental technical and science-based Organisation

1	5	7
Headquarters in Paris (France)	Regional Representations	Sub-Regional Representations & Offices

Who we are today…

Improving animal health and welfare worldwide

World Organisation for Animal Health · Protecting animals, Preserving our future | 3

2018: 182 Member Countries

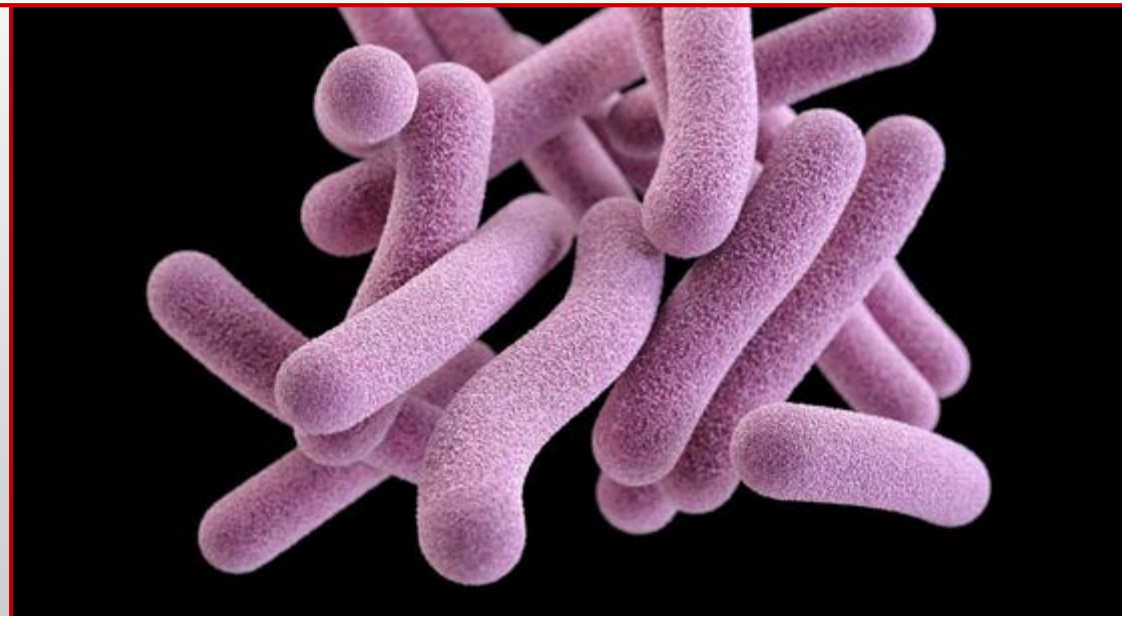
12 Regional and Sub-Regional Representations

History of TB and bTB

1882
Robert Koch announced his discovery of the tubercle bacillus as the cause of human tuberculosis (TB)

1898
Theobald Smith demonstrated the causative bacteria to be two different organisms that are now known as *Mycobacterium tuberculosis* and *Mycobacterium bovis*

Mycobacterium bovis infects cattle where it causes bovine tuberculosis (bTB), but it can also infect humans where it is known as zoonotic tuberculosis. Other members of the Mycobacterium tuberculosis complex are also relevant (*M.caprae*) for animals



Disease situation

In the 19th century, the estimated death rates of TB was 800-1,000 per 100,000 in humans in European cities

Up to 10% of all TB human cases may be due to *Mycobacterium bovis*

bTB in developed and developing countries

Developed countries

Disease virtually eradicated in humans, under control in animals:

- Eradication in livestock is possible (test and cull)
- Control in wildlife is complex: badgers, white-tailed deer, brushtail possums

Also the introduction of meat inspection, milk pasteurisation and hygiene measures allowed to disrupt the transmission to humans

Developing countries

bTB remains a problem for animal and human health

Ongoing international commitment

- In September 2018, the UN held a High Level Meeting on combatting Tuberculosis (TB).
- The meeting concluded with adoption of a declaration to outline global strategies for control and eradication of TB worldwide.
- While focusing on human tuberculosis caused by *Mycobacterium tuberculosis*, the declaration also acknowledged the need to combat also bTB in animals and zoonotic tuberculosis in people

OIE initiatives to tackle bTB

Since Mycobacterium bovis is a threat to multiple species including humans, a broadly-based One Health approach is required to combat this problem:

1. Technical standards and scientific network
2. Data collection and reporting
3. The Tripartite (FAO,OIE,WHO)
4. Replacement of the international standard tuberculin
5. Liaison with regulators, industry and researchers
6. Networks and coordination

Article 8.11.4.

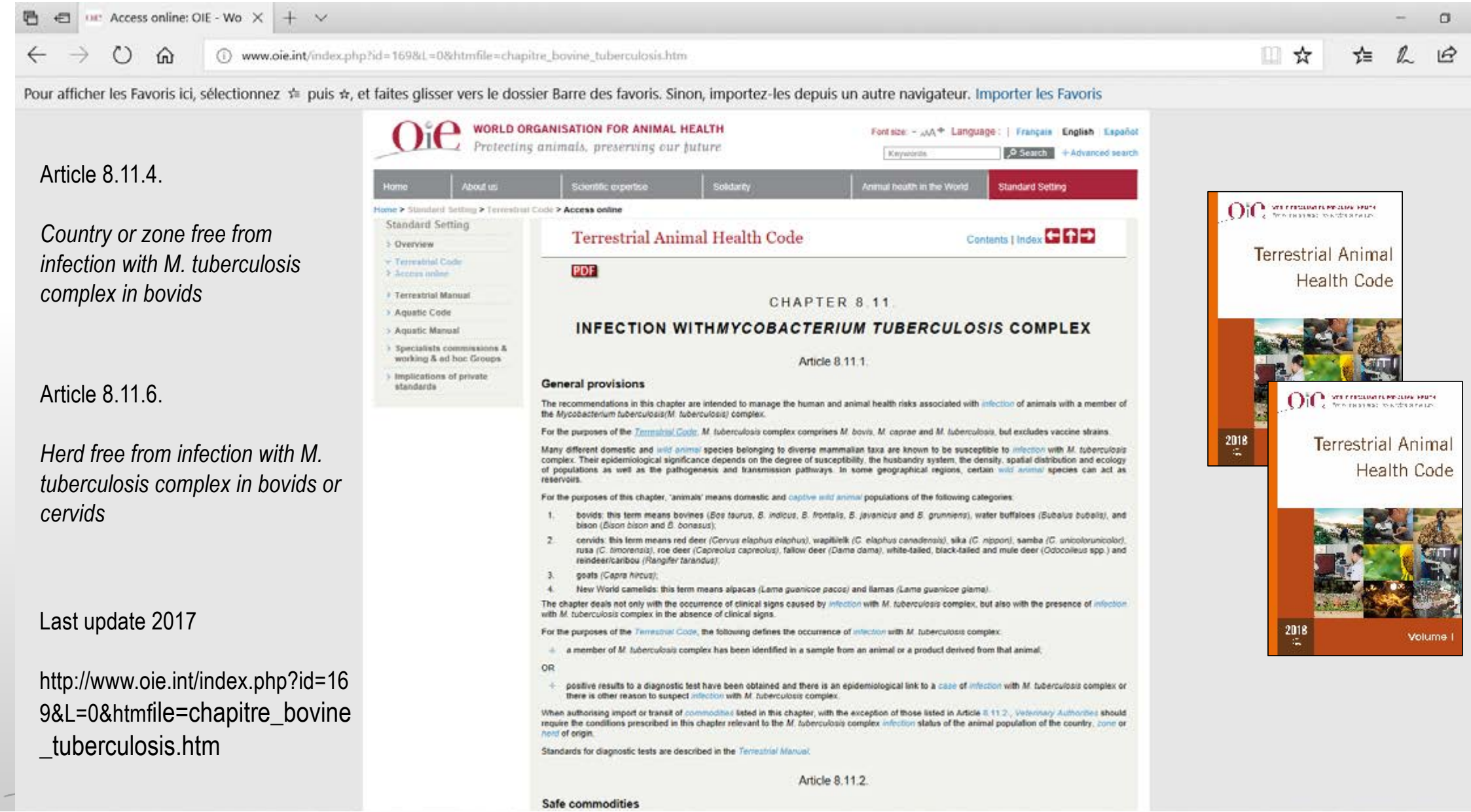
Country or zone free from infection with M. tuberculosis complex in bovids

Article 8.11.6.

Herd free from infection with M. tuberculosis complex in bovids or cervids

Last update 2017

http://www.oie.int/index.php?id=169&L=0&htmfile=chapitre_bovine_tuberculosis.htm



bTB data collection and reporting to the OIE

Member Countries are obliged to report the disease situation of OIE-listed diseases to the OIE

Since 2004, online submission through WAHIS, currently being renovated into WAHIS+

bTB is mostly notified through six monthly reports. In 2017, 179 out of 182 Member Countries report the disease status to the OIE (presence/absence) in the territory. Almost half of these countries report the presence of the disease in animals

- Strengths: data are official, consistent and validated,
- Drawbacks: data for some countries are incomplete or missing

Tripartite One Health Collaboration: 2010 - 2018

Food and Agriculture Organization of the United Nations

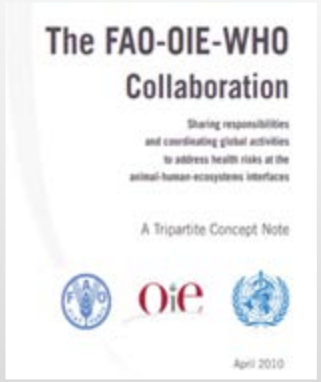
Global leader for food and agriculture

OIE WORLD ORGANISATION FOR ANIMAL HEALTH

Global leader for animal health and welfare standards

World Health Organization

Global leader for human health



- **MOU and tripartite workplan 2018 - 2020**

Roadmap for Zoonotic Tuberculosis

World Organisation for Animal Health

World Health Organization

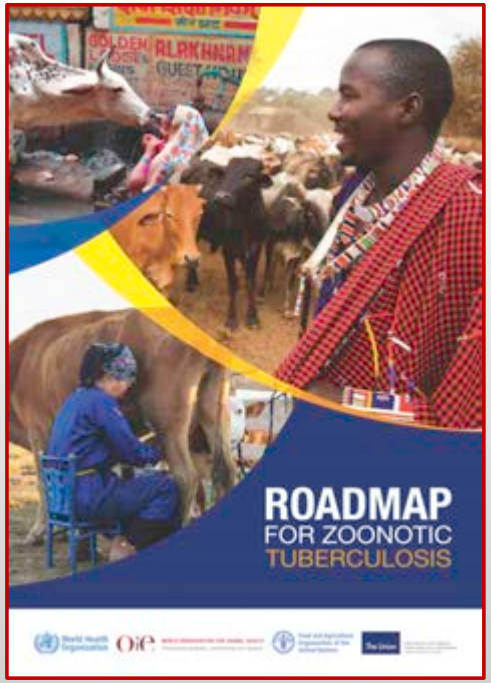
Food and Agriculture Organization of the United Nations

The Union
International Union Against Tuberculosis and Lung Disease
Health solutions for the poor

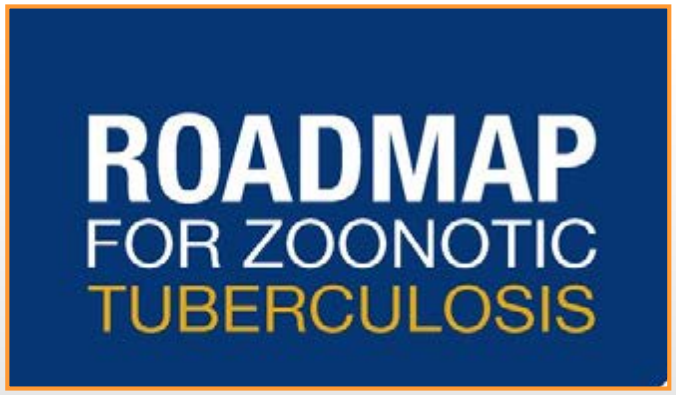
The Roadmap was developed in collaboration with the International Union Against Tuberculosis and Lung Disease (The Union) and published in 2017

Objectives include the development of coordinated strategies for combatting zoonotic tuberculosis

The 10 key priorities and strategies for tackling zoonotic tuberculosis are outlined in the recently published Roadmap for Zoonotic Tuberculosis



Roadmap for Zoonotic Tuberculosis, rationale



Zoonotic tuberculosis has long been neglected

United Nations Sustainable Development Goals, goal 3 includes a target for ending the global TB epidemic

WHO launched the End TB Strategy for ending TB epidemic in humans by 2030

The Stop TB Partnership plan, which includes for the first time people at risk of zoonotic TB as a neglected population deserving greater attention

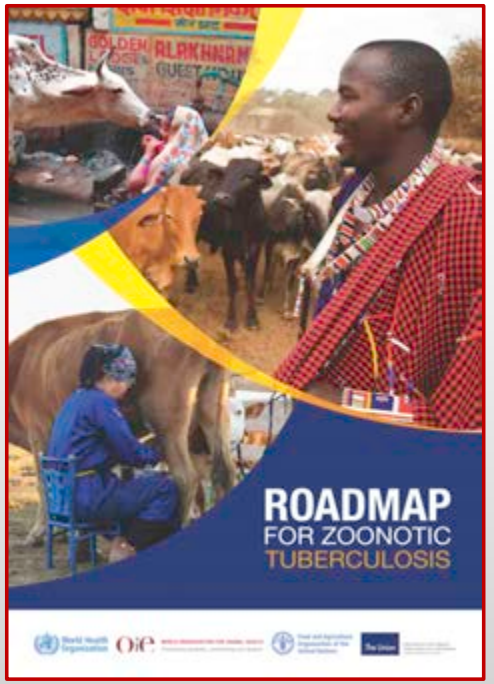
Declaration made in 2017 by leaders of the G20 forum to foster research and development for TB

Therefore, the time is right for a concerted effort to address the impact of bTB on the health and well-being of people and animals

Roadmap for Zoonotic Tuberculosis

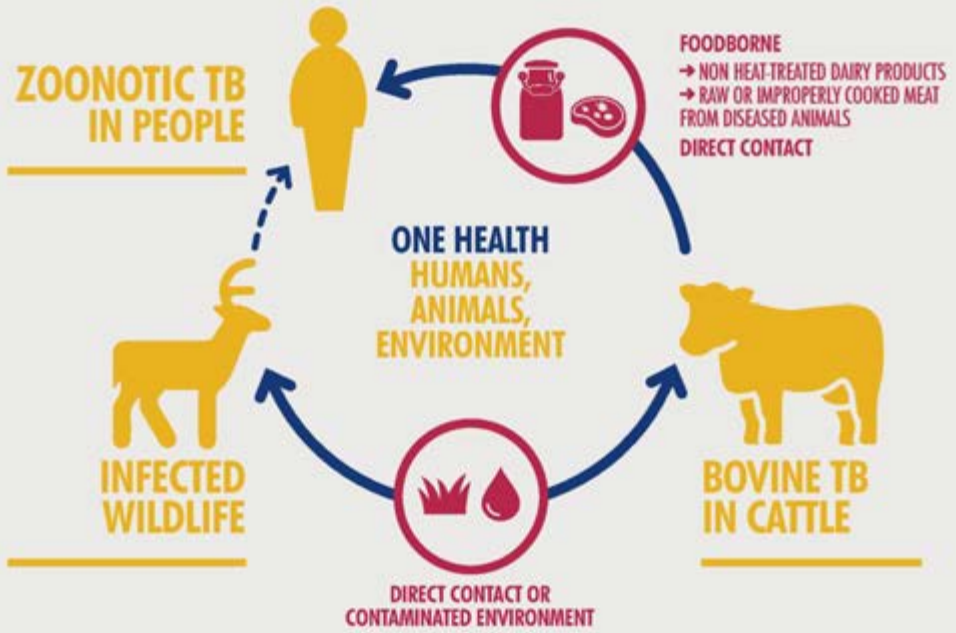
The 10 key priorities to address zoonotic TB

1. Collect and report more complete and **accurate data** from human and animal populations
2. Improve **diagnosis** in people
3. Address **research** gaps
4. Ensure **safer food**
5. Improve **animal health**
6. **Reduce** the **risk** to people
7. Increase **awareness**, engagement and collaboration
8. Develop **policies and guidelin**es
9. Implement joint **interventions**
10. Advocate for **investment**



BREAKING THE CHAIN OF TRANSMISSION

STOPPING ZOONOTIC AND BOVINE TUBERCULOSIS IN THEIR TRACKS



ACT NOW TO SAVE LIVES AND SECURE LIVELIHOODS

World Health Organization

OIE WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

Food and Agriculture Organization of the United Nations

The Union

ZOONOTIC TUBERCULOSIS IS A MAJOR PUBLIC HEALTH THREAT

IN 2016

140,000 NEW CASES

12,000 DEATHS IN PEOPLE

POOR HEALTH AND WELFARE

REDUCED ECONOMIC PRODUCTIVITY OF LIVESTOCK

ACT NOW TO SAVE LIVES AND SECURE LIVELIHOODS

World Health Organization

WORLD ORGANISATION FOR ANIMAL HEALTH
Protecting animals, preserving our future

Food and Agriculture Organization of the United Nations

The Union

Publications

THE LANCET

Zoonotic tuberculosis in human beings caused by Mycobacterium bovis – a call for action

(2017) The Lancet Infectious Diseases 17, 21-25.

It’s time to act to accurately diagnose and treat tuberculosis caused by *Mycobacterium bovis* in human beings

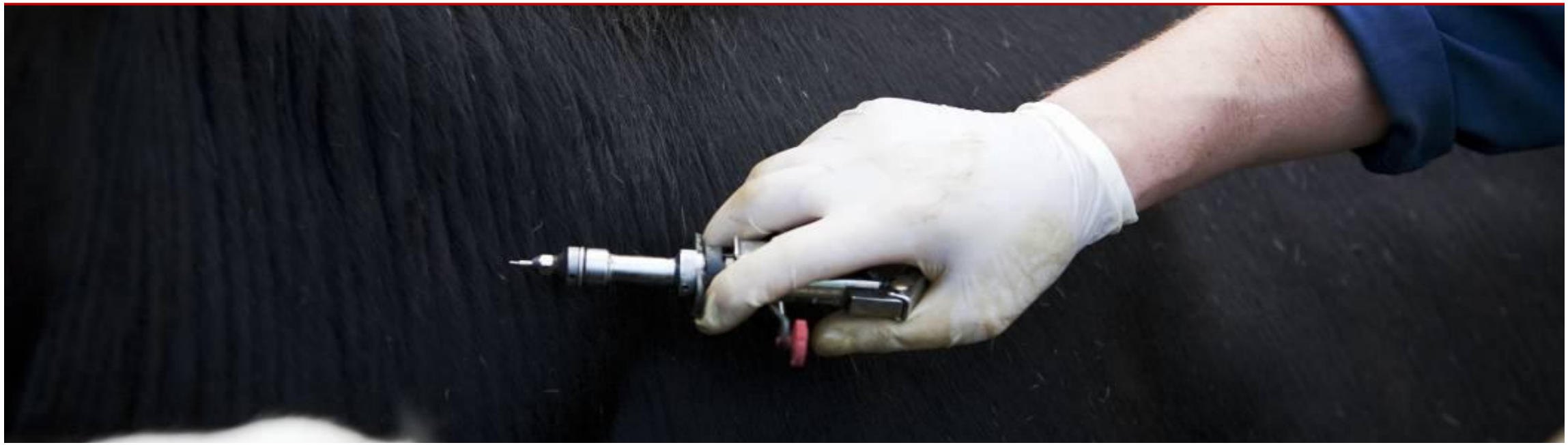
Replacement of the ISBT

The current international standard bovine tuberculin (ISBT) was developed in 1986 and it has become depleted

The OIE is leading a project to replace the ISBT

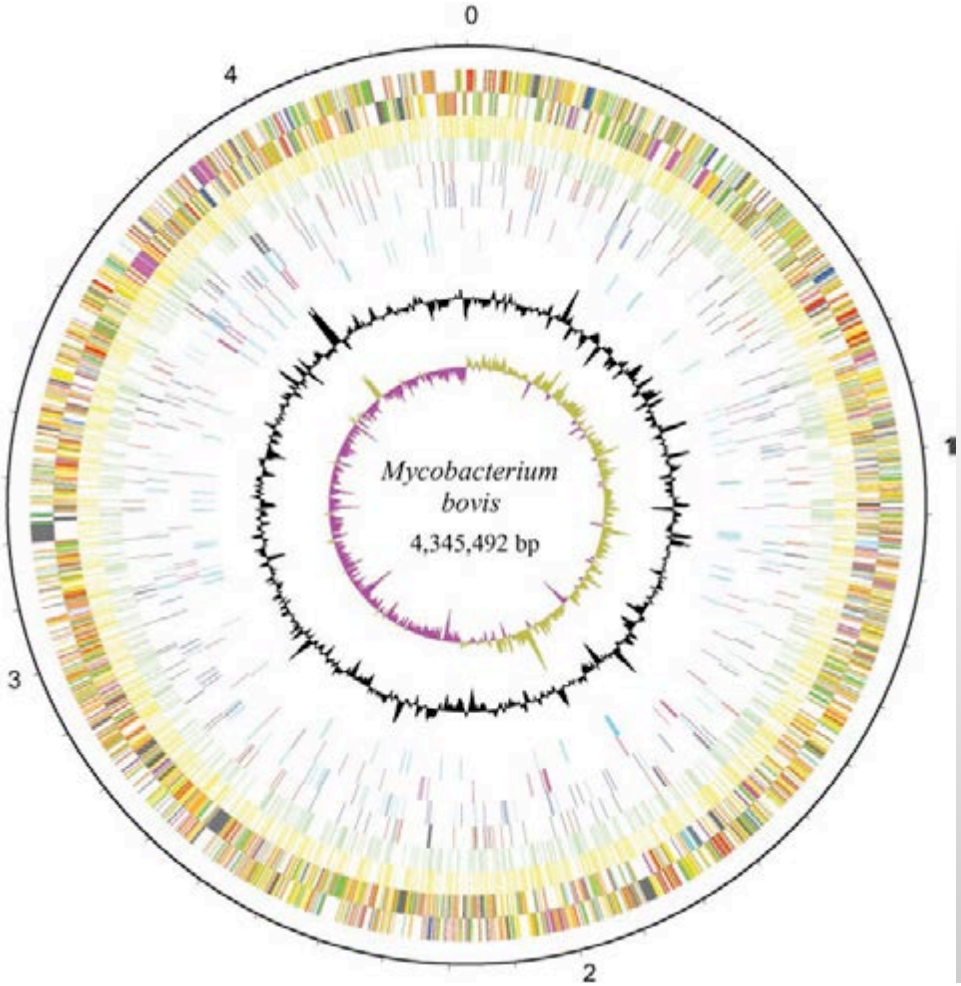
Ad hoc Group

Preliminary Evaluation and International Collaborative Study



Liaison with regulators, industry and researchers

The Global Research Alliance for bovine Tuberculosis (GRAbTB) coordinates global research alliance enabling improved understanding and control of bTB.



Liaison with regulators, industry and researchers

Global Strategic Alliances for the Coordination of Research on the Major Infectious Diseases of Animals and Zoonoses

The STAR-IDAZ International Research Consortium (IRC) is a group of research funders and programme owners aiming to maximise funding for coordinated animal health research

The STAR-IDAZ IRC Bovine Tuberculosis Working Group and the Global Research Alliance for bovine Tuberculosis (GRAbTB) have jointly developed a Roadmap for Development of a Candidate Vaccine for bTB

Networks and Coordination at the Animal-Human Interface

- Need for better data and understanding of transmission pathways
- Amount of *M. bovis* cases in humans and role of *M. tuberculosis* in animals
- Better understanding on the role of wildlife
- Development of common research (including diagnostics and vaccines)

WORLD ORGANISATION FOR ANIMAL HEALTH

Protecting animals, preserving our future

Thank you for your attention

12, rue de Prony, 75017 Paris, France
www.oie.int
media@oie.int - oie@oie.int