

# **OIE initiatives to support Rabies elimination in Asia**

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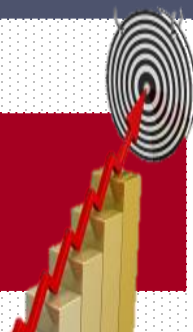
**1<sup>st</sup> Asian Rabies Control Network (ARACON) Meeting: 12-14 March 2018, Bangkok**



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

# Outline

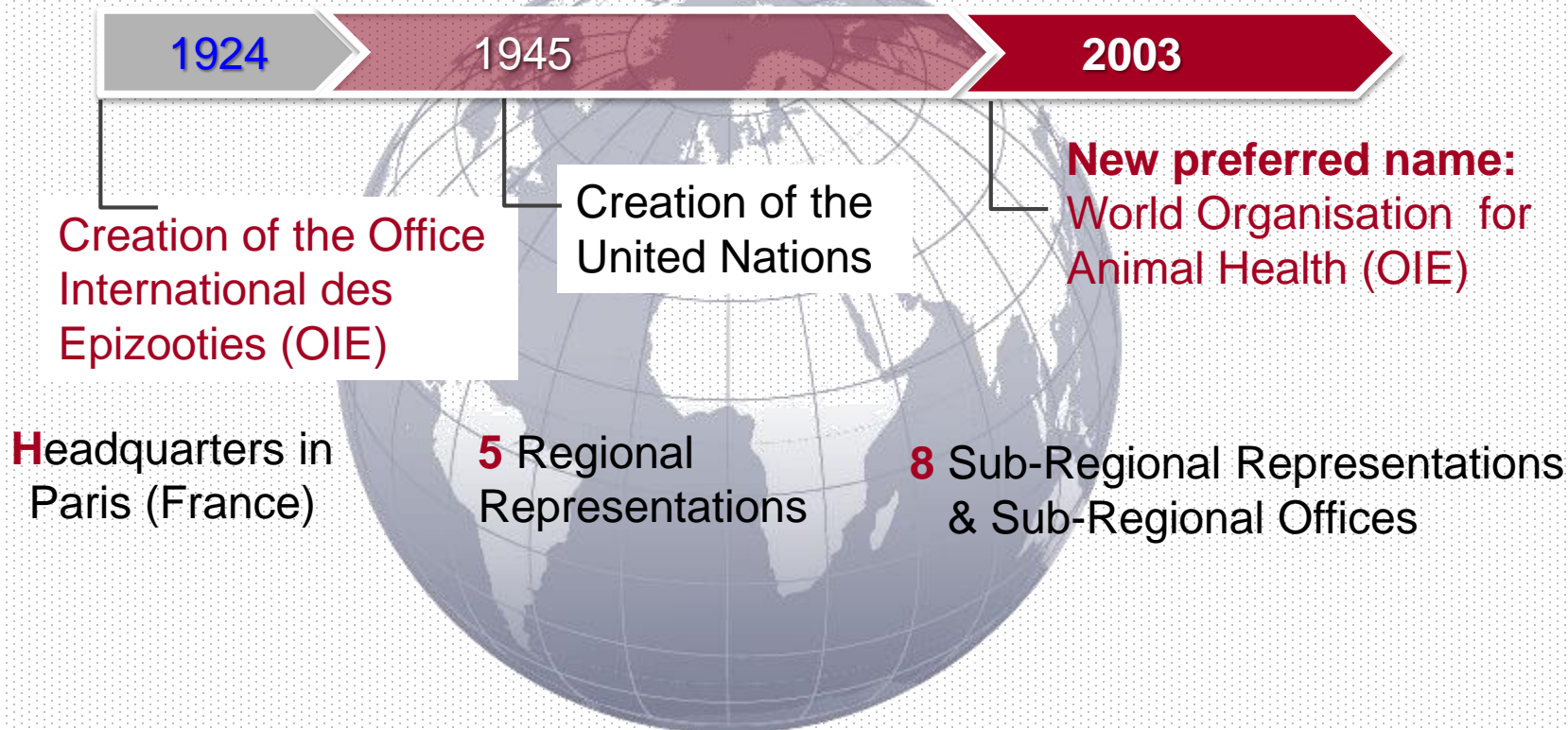
- Introduction
- Global and Regional Rabies virus infection situation and trend
- Some regional initiatives and activities on Rabies control
- Lessons learned and some proposals



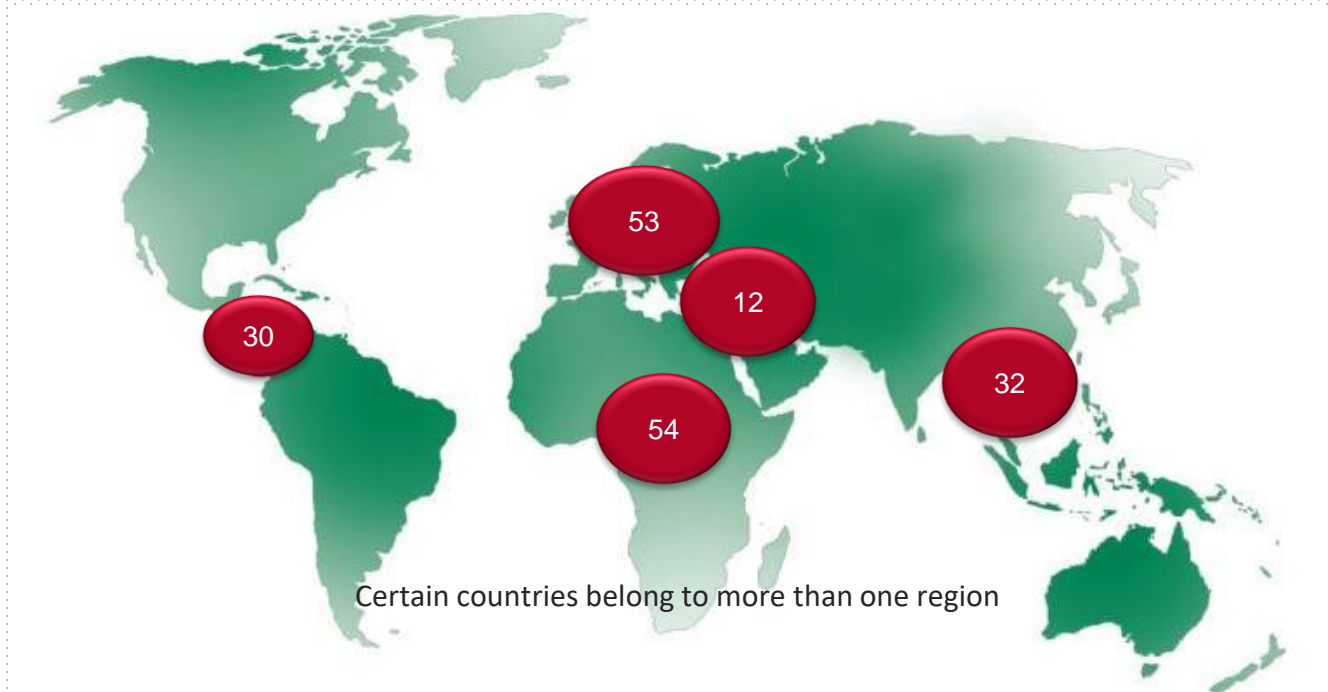
# Introduction

## What is the OIE?

- An **intergovernmental** organisation created in 1924 to **prevent the spread of animal diseases** throughout the world

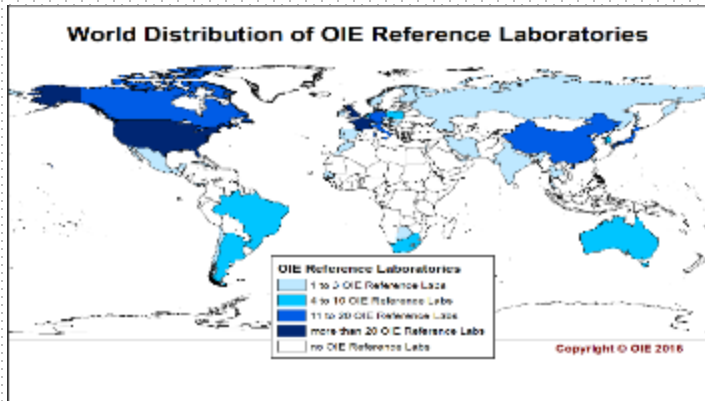


# 181 Member Countries in 2017

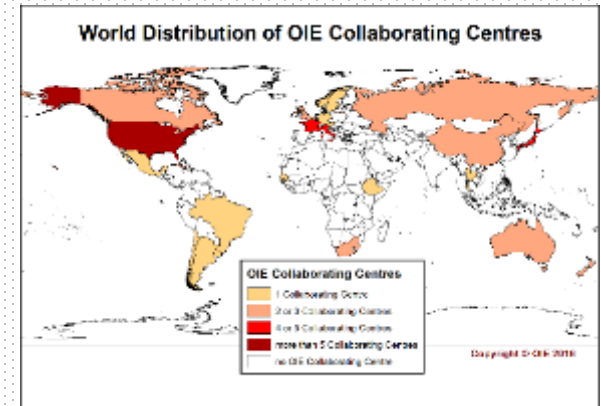


# Reference Laboratories

## Expert centres for animal diseases



**267** (9 for rabies) Reference Laboratories covering **118** diseases in **38** countries as of September 2017



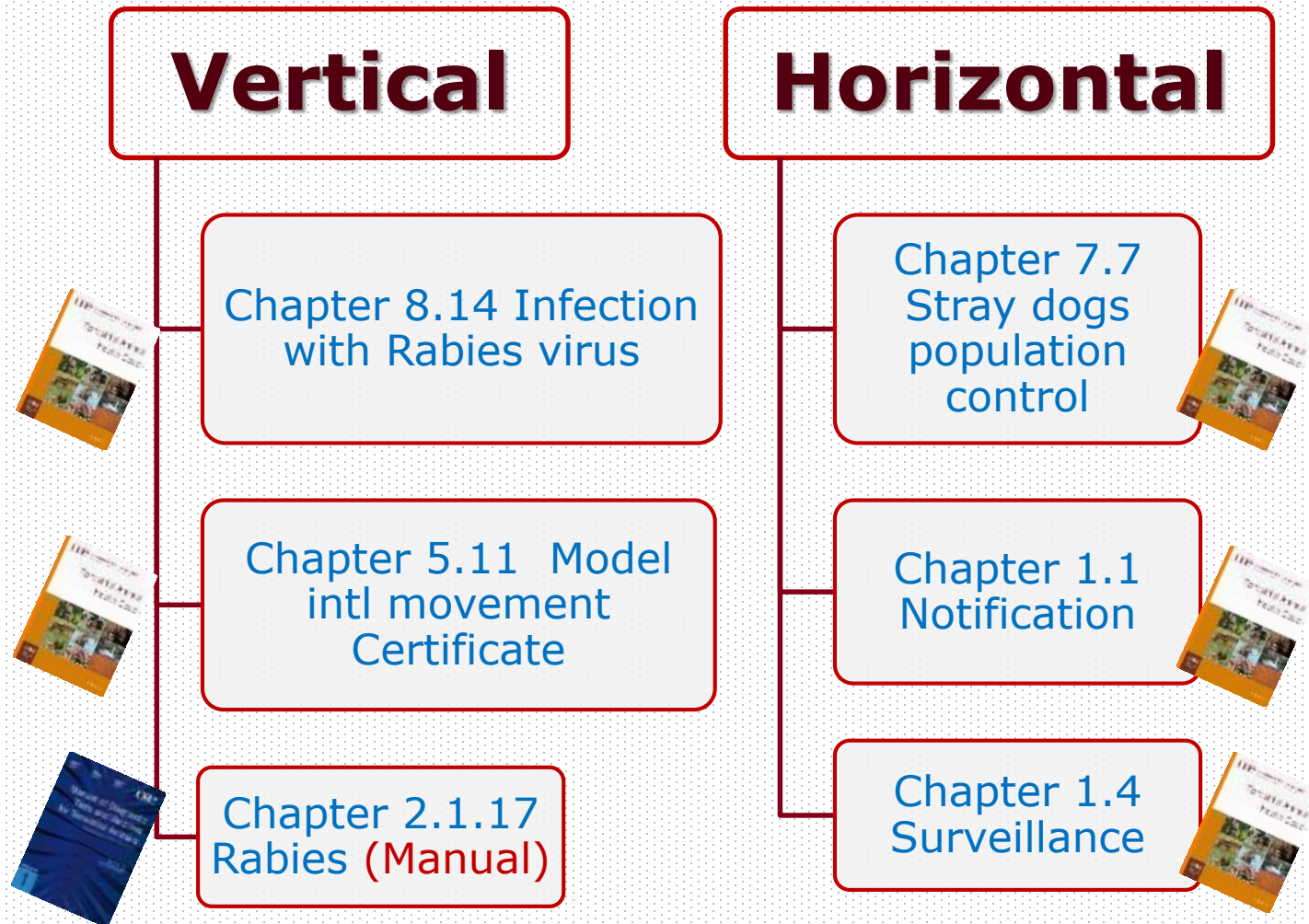
**55** Collaborating Centres in **29** countries **49** diseases or topics

## Asia

**Prof. Changchun Tu**  
Changchun Veterinary Research  
Institute (CVRI), PR China

**Dr Dong-Kun Yang**  
Animal and Plant Quarantine  
Agency, RoK

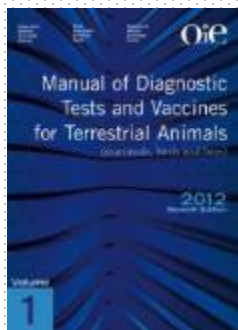
# OIE International Standards on Rabies



# Terrestrial Manual Chapter 2.1.17 (Version: May 2013)

What's new?

- Ad hoc Group, May 2017
- ToR



- Full revision
- Update existing diagnostic tests
- Include direct rapid immunohistochemistry test (dRIT)
- Include PCR (Conventional and Real-time)
- Update vaccine's section
  - Injectable
  - Oral use (Wildlife, dog, baits)

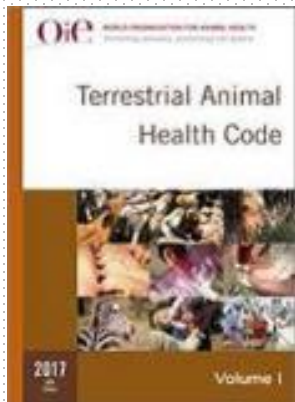
Stay tuned

# Terrestrial Code Chapter 8.14. (OIE listed disease)

What's  
new?

- Ad hoc Group, end 2017
- ToR
  - Dog-mediated rabies case definition
  - Freedom from dog-mediated rabies (Self-declaration)
  - Zoning
  - Considering the role of carnivores in the epidemiology of dog-mediated rabies
  - Surveillance articles

Stay  
tuned



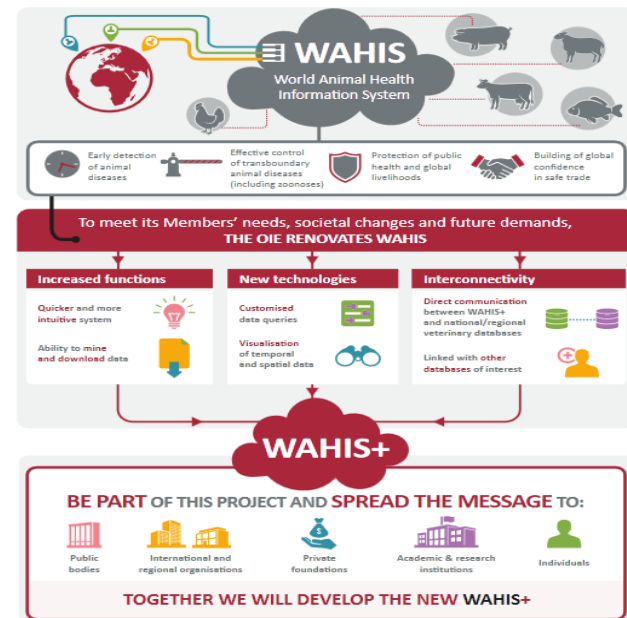


# Global & Regional Rabies Situation

- The reports is prepared from the official country notifications submitted to OIE through WAHIS
- Includes data of 2016 till April 2017 and also takes into account previous years report for some analysis
- **Rabies situation presented in relation to Global Goal of elimination of dog-mediated human rabies**

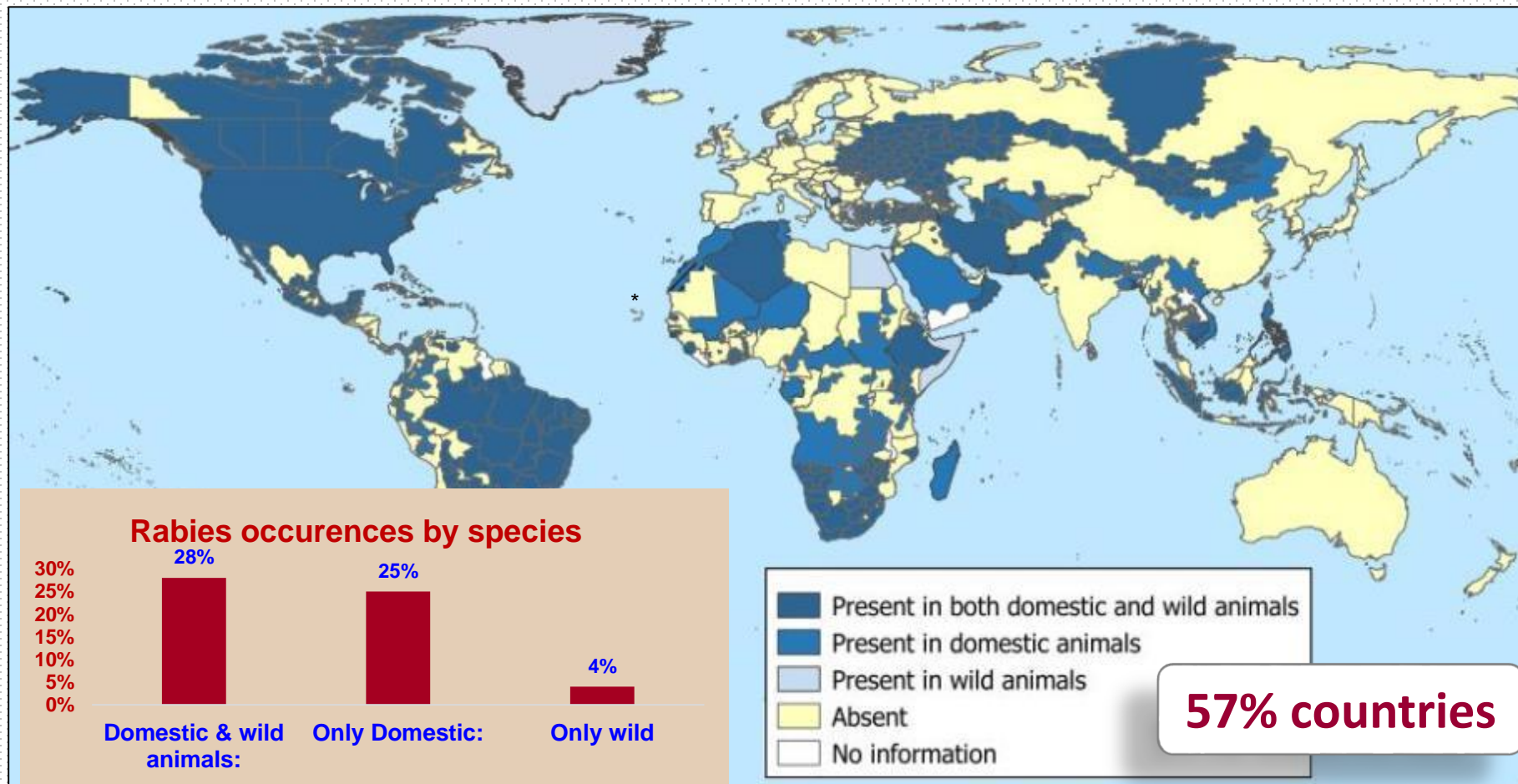


## WAHIS is becoming WAHIS+

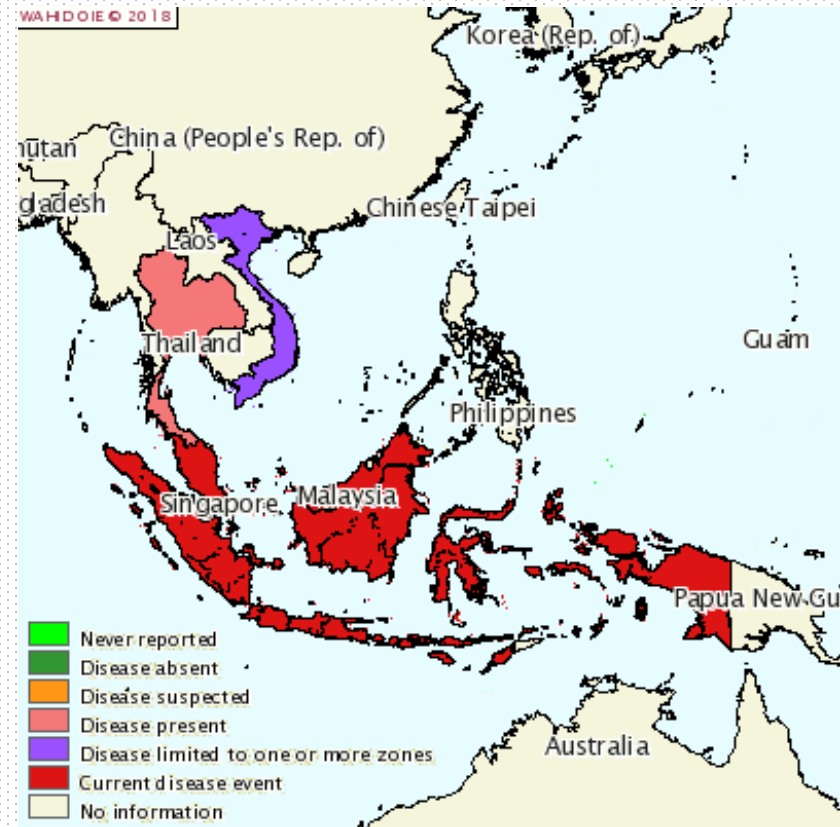
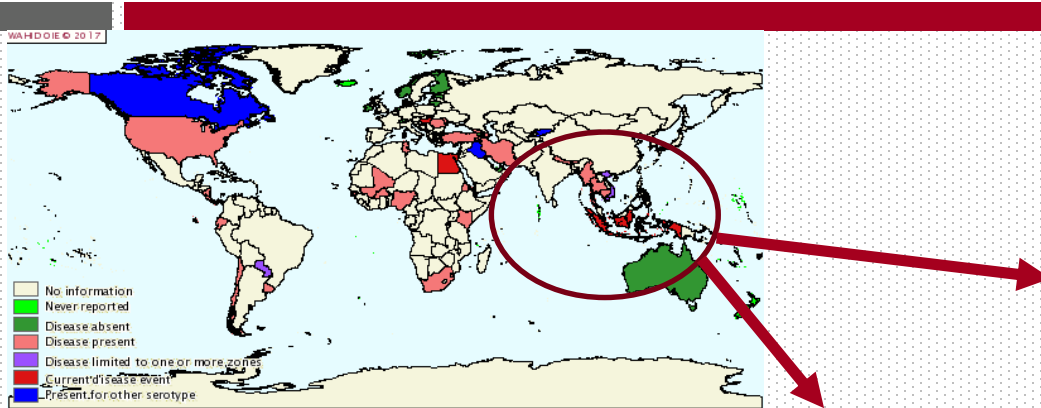


# Reported distribution of infection with rabies virus in 2016 and early 2017

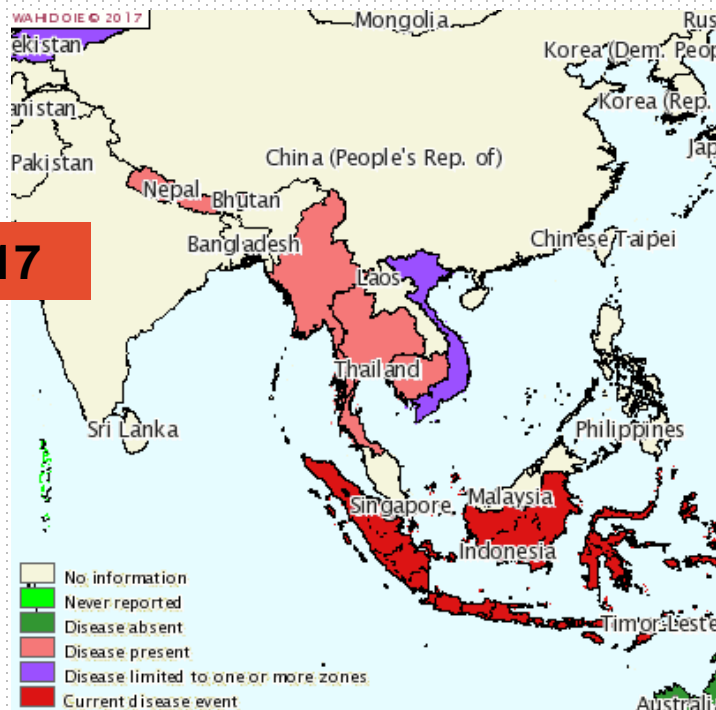
*(data based on reports received up to 10 May 2017)*



# Rabies distribution map - 2017



**Jan-Jun 2017**



**Jul-Dec 2017**

# Analysis of WAHIS data



What are the regional differences in terms of rabies occurrence, impact and control?

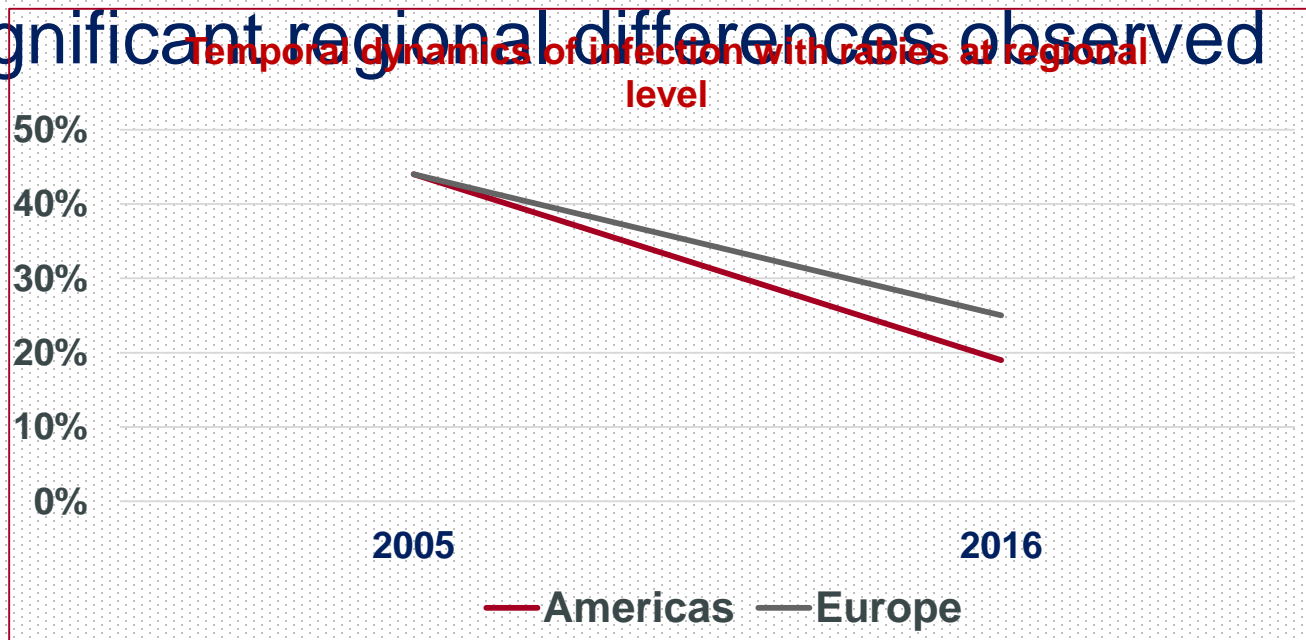
- Spearman's rank correlation test to measure the evolution of the % over time &
- Linear Regression to evaluate the shape of the trend

# Reservoir host range

- Rabies virus infection maintained in two epidemiological cycles – domestic and sylvatic
  - Domestic cycle – dogs are main reservoir host (predominates in Africa, Asia and Central and South America)
  - Sylvatic cycle predominates in northern hemisphere
- In some ecological contexts, wildlife plays key role in epidemiology of rabies, e.g. bats in Americas and wild canids in some specific geographical locations of Africa
- In Asia also, wildlife hosts play the role of reservoirs
- Out of 144 countries/territories submitting information of human rabies, 40% reported human rabies cases

# Temporal dynamics of rabies infection in dogs (2005-2016)

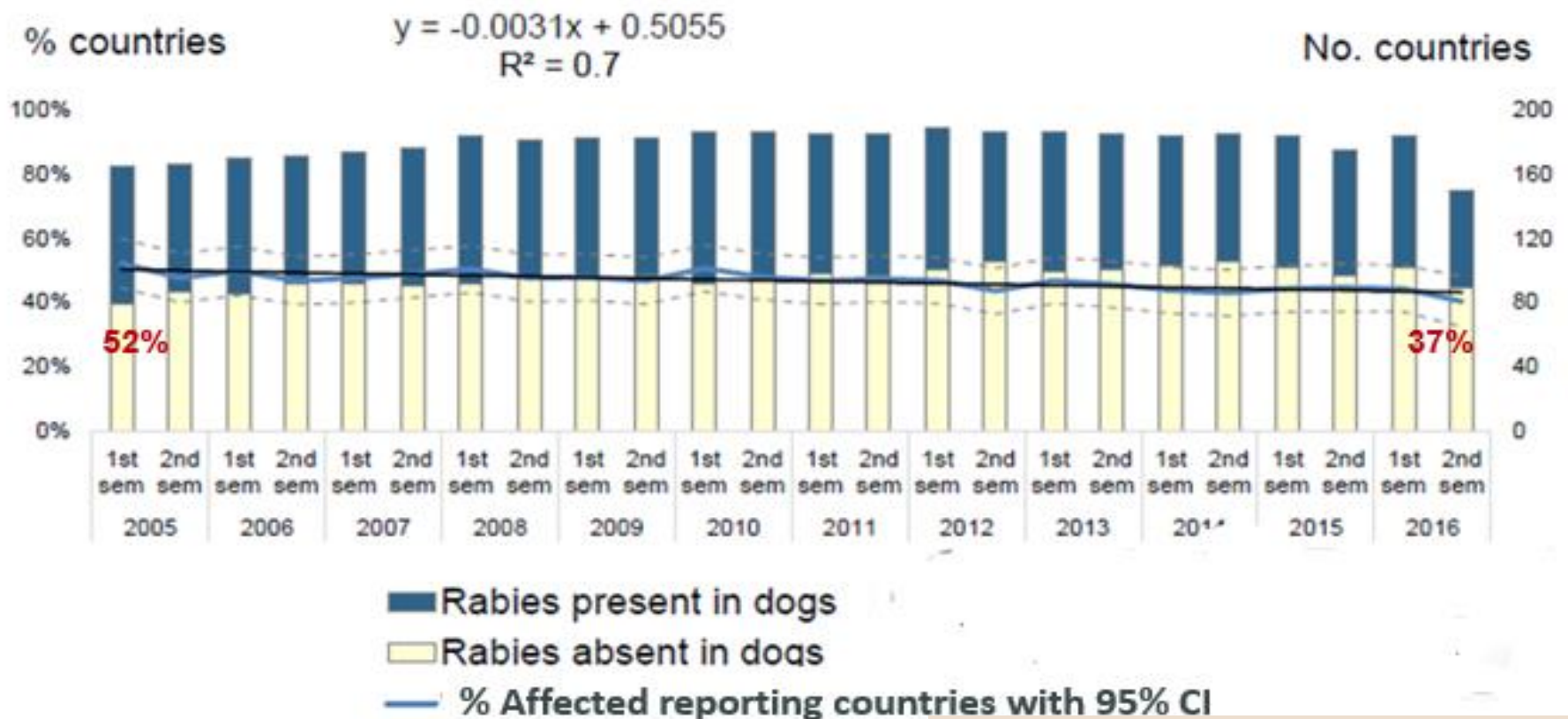
- % of countries/territories notifying the disease in dogs declined during the past 12 years
  - Indicating an improvement in global situation which is consistent with eradication programme by several countries
- Significant regional differences observed





# Percentage of the reporting countries that notified rabies present in dogs (between 2005 and 2016)

(data based on reports received up to 10 May 2017)



No significance in Africa, Asia and ME

# Methodology

## By Region

Annual reports



2015/2016



% reporting countries notifying  
rabies in



Humans

Dogs



**Relative risk**

*(cases notified in humans if cases notified in dogs)*

Six-monthly reports



2005-2016

% reporting countries reporting  
vaccination of dogs per year



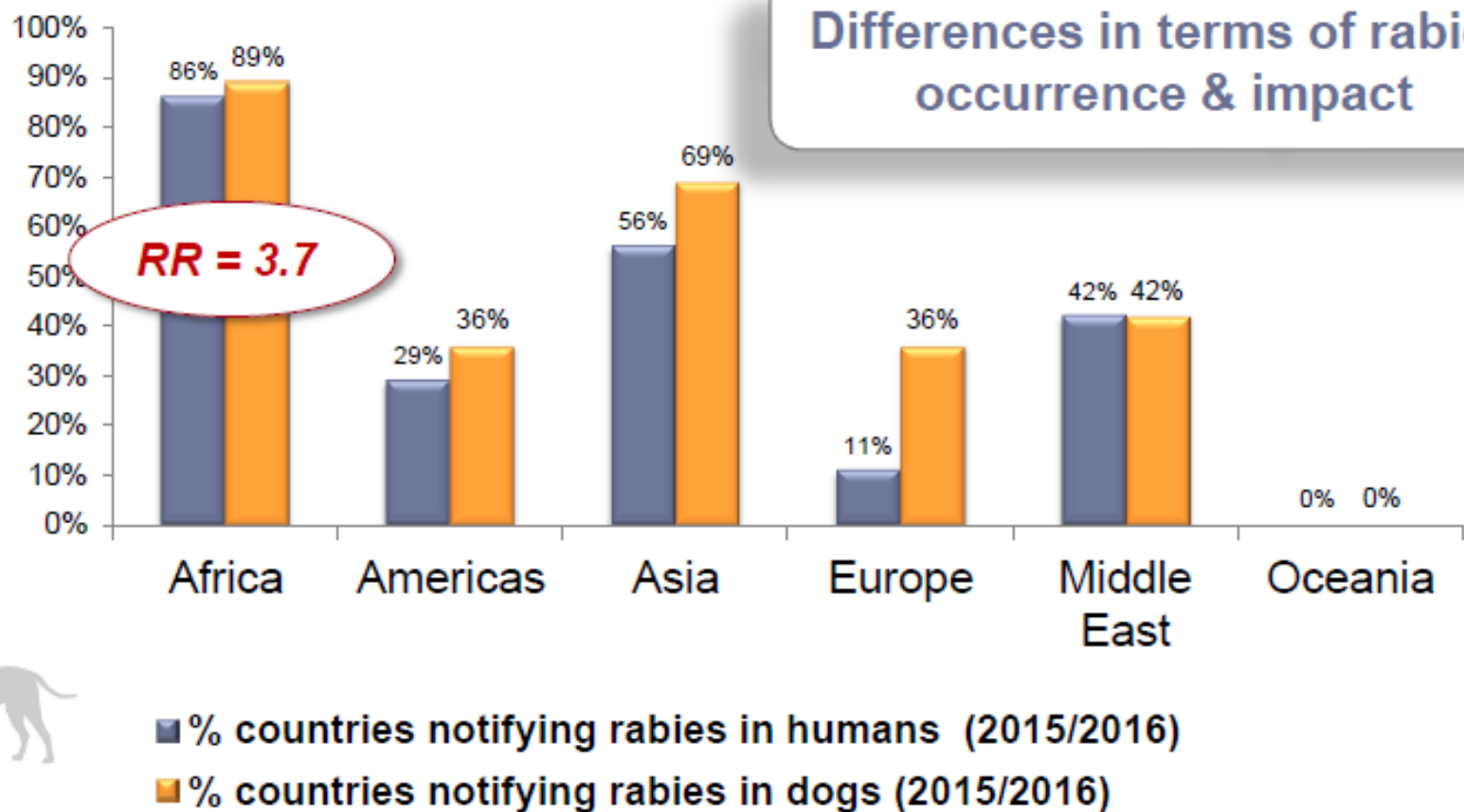
**Trend**

*(Spearman's rank correlation test)*



# Results: Regional differences in the % countries notifying rabies in dogs

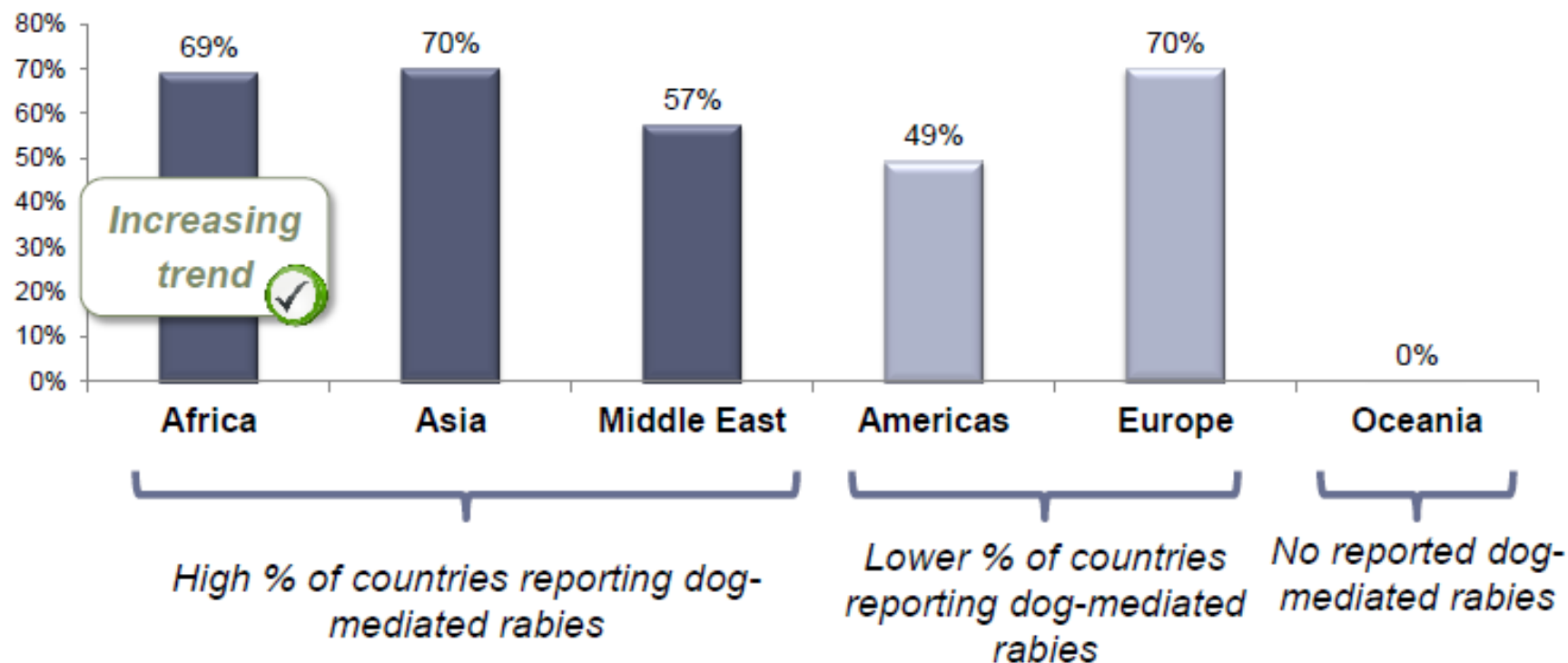
% countries



# Results: Median & trend of official vaccination of dogs (2005-2016)

Median % of countries reporting official dog vaccination

Differences in terms of control strategies



# OIE initiatives & activities on rabies control



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Protecting animals, preserving our future

## NO MORE DEATHS FROM RABIES

Every fifteen minutes someone in the world dies from rabies. This is the sad reality of the situation even today. Every year, rabies kills nearly 60,000 people, mostly children in developing countries. Over 95% of human cases are caused by the bite of a rabies-infected dog. Yet the disease could be eliminated. Indeed, unlike many other diseases, we already have all the tools needed to eradicate it. Each new victim is therefore one too many.

- ?** What is rabies? +
- 60k** Nearly 60,000 deaths per year worldwide +
- 2/3** 2/3 of the countries in the world are still affected +
- 95%** Over 95% of human cases of rabies are due to dog bites +
- NEARLY 100% OF HUMAN RABIES CASES ARE PREVENTABLE** +

**ERADICATE CANINE RABIES SO THAT NO MORE HUMAN CASES OCCUR**

- 70%** Vaccinate at least 70% of dogs +
- \$:10** A cost nearly 10 times lower than that of human prophylaxis +

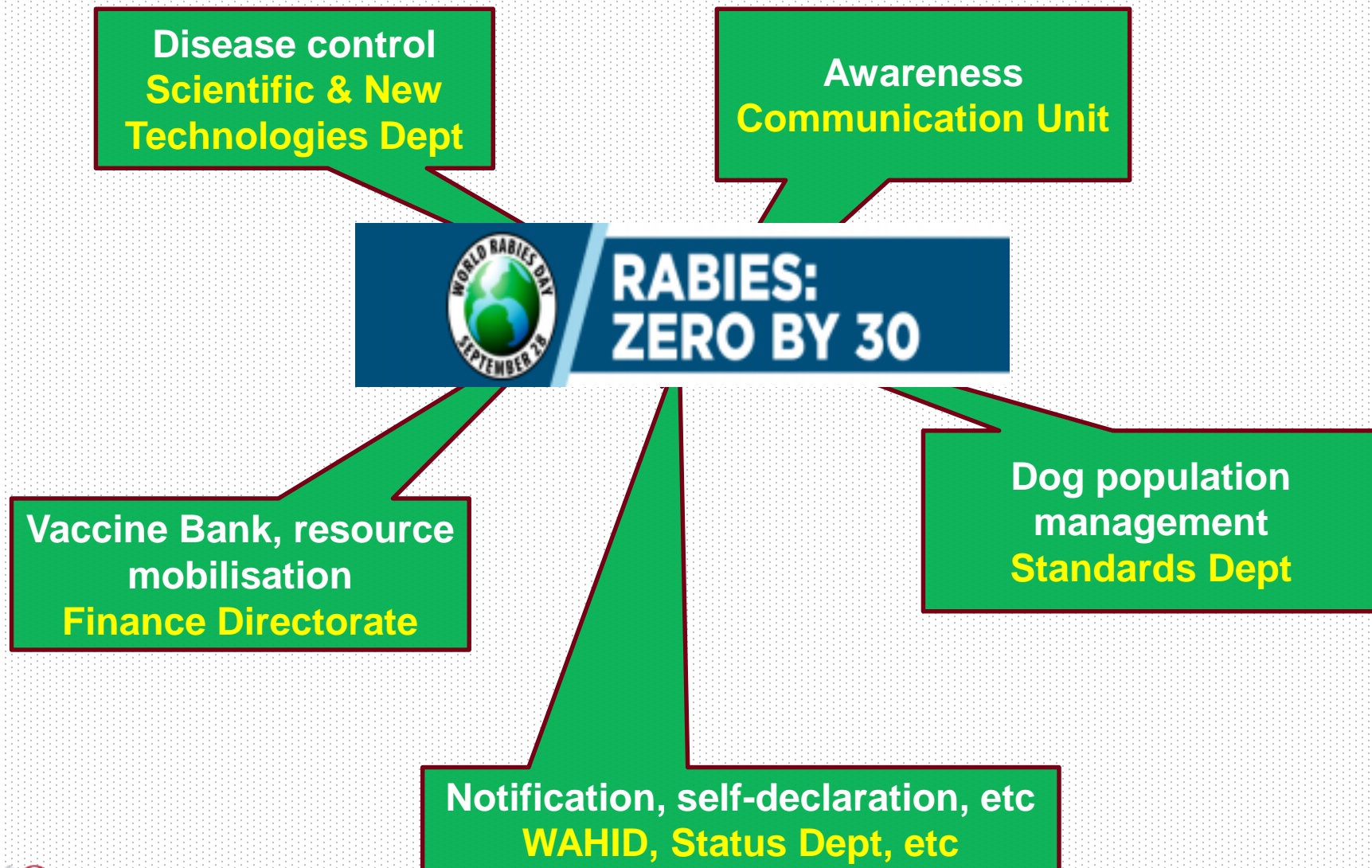
**INTERNATIONAL ORGANISATIONS ARE MOBILISING**

- FAO OIE WHO** A shared FAO/OIE/WHO commitment +
- OIE Regional Vaccine Banks** +
- The "Blueprint" for rabies prevention and control** +

**YOUR TURN TO GET INVOLVED**

TAKE PART IN THE WORLD RABIES DAY +

# The OIE Action Plan 2017-2018



# The OIE Technical Rabies Network

- Under discussion
- **Aim:** Enhancing the coordination of the OIE rabies-related activities across departments and across the OIE regions
- **Composition:** Chair, Secretariat, Members (HQ and RR-SRR)
- **Operate:** Regular meeting (physical & electronic -WebEx)
- **ToR to define activities**
- **Considering the expectations of our Members:**
  - How do you see the coordination?
  - What are your expectations?
  - How we can better support?





## GLOBAL FRAMEWORK FOR THE ELIMINATION OF DOG-MEDIATED HUMAN RABIES

### GLOBAL ELIMINATION OF DOG-MEDIATED HUMAN RABIES

GLOBAL CONFERENCE  
10–11 DECEMBER 2015  
GENEVA, SWITZERLAND

the time is now!



Pillar 1  SOCIO-CULTURAL  
Pillar 2  TECHNICAL  
Pillar 3  ORGANIZATION  
Pillar 4  POLITICAL  
Pillar 5  RESOURCES

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## “Zero by 30”

The goal of reaching zero human deaths from dog-mediated rabies by the year 2030

3 GOOD HEALTH AND WELL-BEING

SDG

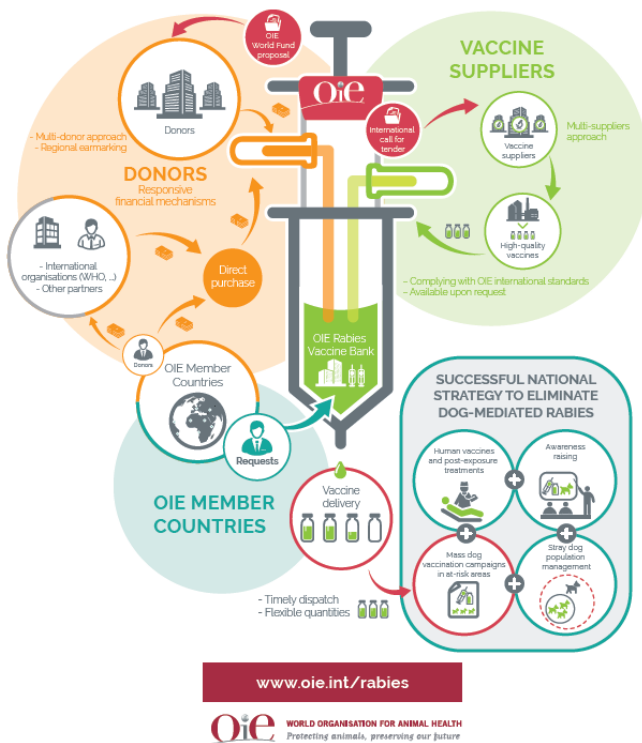


- OIE Resolution N.26, 2016. Consider the **Global Framework** to harmonize actions and to provide adaptable guidance to achieve the elimination of dog-mediated human rabies by 2030.
- **28 Sep 2017** Launch (executive summary) of the **Global Strategic Plan for Rabies Elimination**

# OIE Rabies Vaccine Bank

## CANINE RABIES VACCINES TO SAVE HUMAN LIVES

**RABIES kills nearly 60,000 PERSONS PER YEAR** with more than **95%** of cases originating from **INFECTED DOG bites**. By providing high-quality dog vaccines, the OIE Vaccine Bank helps countries implement vaccination campaigns and eliminate canine-mediated human rabies.



- High quality vaccine with a lower cost
- Multiple donor involvement & regional approach



- Expanded to Asia and Africa
- Cost reduction per vaccine unit
- Timely dispatch during emergency
- Delivery according to country needs
  - Easy procurement and delivery systems (custom clearance)
  - Direct purchase or third party purchase

# OIE Rabies Vaccine Bank

(Deliveries as of December 2015)

**>4 million doses**  
of rabies vaccines delivered as of December 2015

**Nepal**

(200,000 doses; 2013)

**Vietnam**

(872,000 doses;  
2012/2013/2014)

**Laos**

(290,400 doses;  
2012/2013/2014)

**Bangladesh**

(200,000 doses; 2013)

**Singapore**

(5,000 doses;  
2014)

**Afghanistan**

(200,000 doses; 2014)

**Bhutan**

(100,000 doses; 2013/2014)

**Cambodia**

(50,000 doses; 2015)

**Sri Lanka**

(300,400 doses; 2013)

**Indonesia**

(300,000 doses;  
2013/2016)

**Myanmar**

(400,000 doses;  
2013/2015)

**Philippines**

(1.12M doses;  
2013/2014/2015)





# Regional strategies and roadmap

Rabies activities in the **OIE RRAP** and **SRR SEA** are supported by the **OIE/JTF Project for Controlling Zoonoses in Asia** and **STANZ** projects respectively (completed)

## ASEAN

- ASEAN Rabies Elimination Strategy: Ending Rabies Together by 2020 (**Joint strategy**)
  - All the ASEAN Member States (AMS) have adopted the ARES. The SRR has assisted 3 countries align/update their strategy along the ARES and the Global Rabies Framework – **Philippines, Cambodia and Myanmar.**
  - Other AMS also believed to have updated their strategy based on ARES - **Thailand, Vietnam, Malaysia and Indonesia.**



# Regional strategies and roadmap

## South Asia

- Elimination of dog-mediated human rabies by 2030 – Discussion initiated but not much progress yet
- Country specific actions, E.g.
  - Strategic Framework for Elimination of dog mediated human rabies deaths in Bhutan by 2023
  - Bangladesh and Sri Lanka has plans for rabies elimination target 2020



# Regional Activities

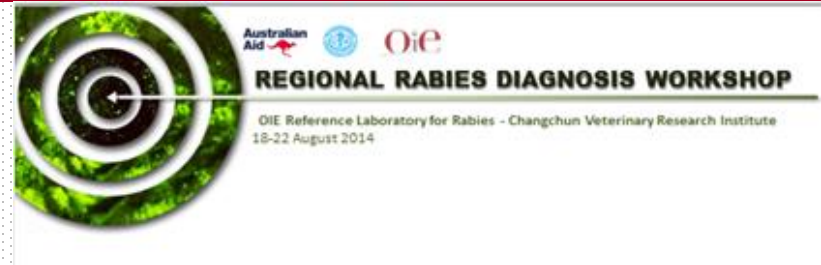
- Regional Rabies Diagnosis Workshop in Changcun, China

- 2014
- 2017
- **Planned in 2018?**

- Regional Training on Rabies Tokyo, Japan at NIAH - 05-08 August 2014

- Workshop on Relevant International Standards for Dog Rabies – 11-13 June 2014

- Follow up Workshop on Relevant International Standards for Dog Rabies Bangkok, Thailand 17-19 May 2016



# Country specific capacity building activities: 2016-2017

- **Bhutan:** Effective rapid response to rabies outbreak in Eastern Bhutan
- **Myanmar:** Capacity Building for Rabies surveillance and diagnosis
- **Philippines:** Capacity building for rabies sero-surveillance for post vaccination monitoring
- **Indonesia (2016):** Rabies diagnostic capacity building
  - Changchun Veterinary Research Institute, PR China, OIE Reference Laboratory for Rabies support to DIC Bukittingi lab – on the bench training on rabies diagnostic technique & methods  
(FAVN, PCR, RFFIT, DNA sequencing)



# Country capacity building activities contd...

- Supply of diagnostics kits, conjugates and reagents for diagnosis - Myanmar, Bhutan and Philippines
- Training in laboratory diagnosis and vaccine monitoring - Philippines and Myanmar
- On the bench training on rabies diagnostic technique & methods (FAVN, PCR, RFFIT, DNA sequencing) provided to Indonesia lab by experts visit from Changchun Lab
- Vaccine supply to Bhutan - 10,000 doses
- Mass dog catching equipment to Bhutan (Dan-Inject gun, blow pipe, and jabstick)



# Dog catching equipment – Dan Inject rifle, blowpipe & jabstick



**Dan Inject rifle**



**Blowpipe**



**Jabstick**



# Lessons learned and proposals

- The best way to tackle rabies is at its source including through mass dog vaccinations using good quality vaccines
- Rabies control requires a multi-sectoral approach and is considered as a priority model to apply the One Health concept.
- Some REC goals, e.g. ASEAN's rabies elimination 2020 or SAARC's 'zero by 30' plan—but implementation status are variable
- Various tools & guides available for use to help in rabies control: SARE, GDREP, Vax calculator, WHO's and OIE vaccine bank facilities, Blue print for rabies
- Many workshops and training have also been conducted
- However, there is no concrete steps/measures taken by majority of the countries nor has UAR (Tripartite and GARC) come together to support the countries in a comprehensive

# Lessons learned and proposals contd...

- Need for the UAR to play a more proactive role collectively in this Phase 1 of the Global Framework to assess the real country situation and identify and support intervention measures to be put in place
  - ✓ To stock take the ground realities of countries' progress/preparations for 'Zero by 30' or rabies elimination
  - ✓ Identify status of application of various tools and guides available including success stories
  - ✓ Identify tangible roadmaps for strengthening/developing national rabies action plans and implementation of the plans incl. surveillance & diagnostics
  - ✓ Identify support to be provided to the countries and roles of the individual agency or UAR together in rabies control/elimination in the countries.
- Identify rabies champions in the countries to take lead
- Ensure Government buy in on the Global Framework and country

**Therefore, proposes a UAR regional workshop on  
“Enhancing Progress Towards Rabies ‘Zero by 30’ in the Asia Pacific  
Region: Working Together at Country Level”**



# Lessons learned and proposal contd...

## Possible country level support from OIE RRAP

- Technical support in diagnostic capacity building and related activities as a follow up of the trainings provided so far
  - Fielding expert from OIE Ref Lab, Changchun, China to the country lab for on the bench training to address issues on site
  - Diagnostic kit/reagent supplies or vaccine supplies
- Support can be provided to any lab from the two sectors depending on which sector takes lead but request to be submitted jointly as One Health approach
- Participants can discuss with relevant authorities once back in the countries and let OIE RRAP know before May end 2018
- Other country level activities if justifiable can also be supported – surveillance, vaccine, IEC, etc on case by case basis

# Way forward

- To be more effective and at the same time causing least burden to the countries it should be joint and collaborative actions from the UAR  
\*\*\*
- To be successful and sustainable need to address through a OH Approach mechanism at country level  
\*\*\*
- Need to ensure Governments take ownership - providing political support and leadership

## Way forward

- To be more effective and at the same time causing least burden to the countries it should be joint and collaborative actions from the UAR

If you want to go fast GO ALONE

If you want go far GO TOGETHER



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**Acknowledgement**  
**WAHIAD team in HQ for the data analysis report**



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