



# BWYPEX: Discovery, Approval and Management of Genetic Abnormalities in Cattle

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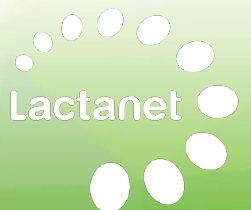
# Project Goals

Assess current methods used to:

- Quickly discover new genetic abnormalities
- Identify the causative gene and/or haplotype
- Determine the nomenclature for approving and labelling animals

Better understand the:

- Management strategies of genetic abnormalities
- Required level of gene testing within the population
- Knowledge transfer to industry partners



# My Journey

## Canada/ Virtual Meetings

- Holstein USA/ Holstein Canada
- NAAB
- Semex

## Europe (July/August 2025)

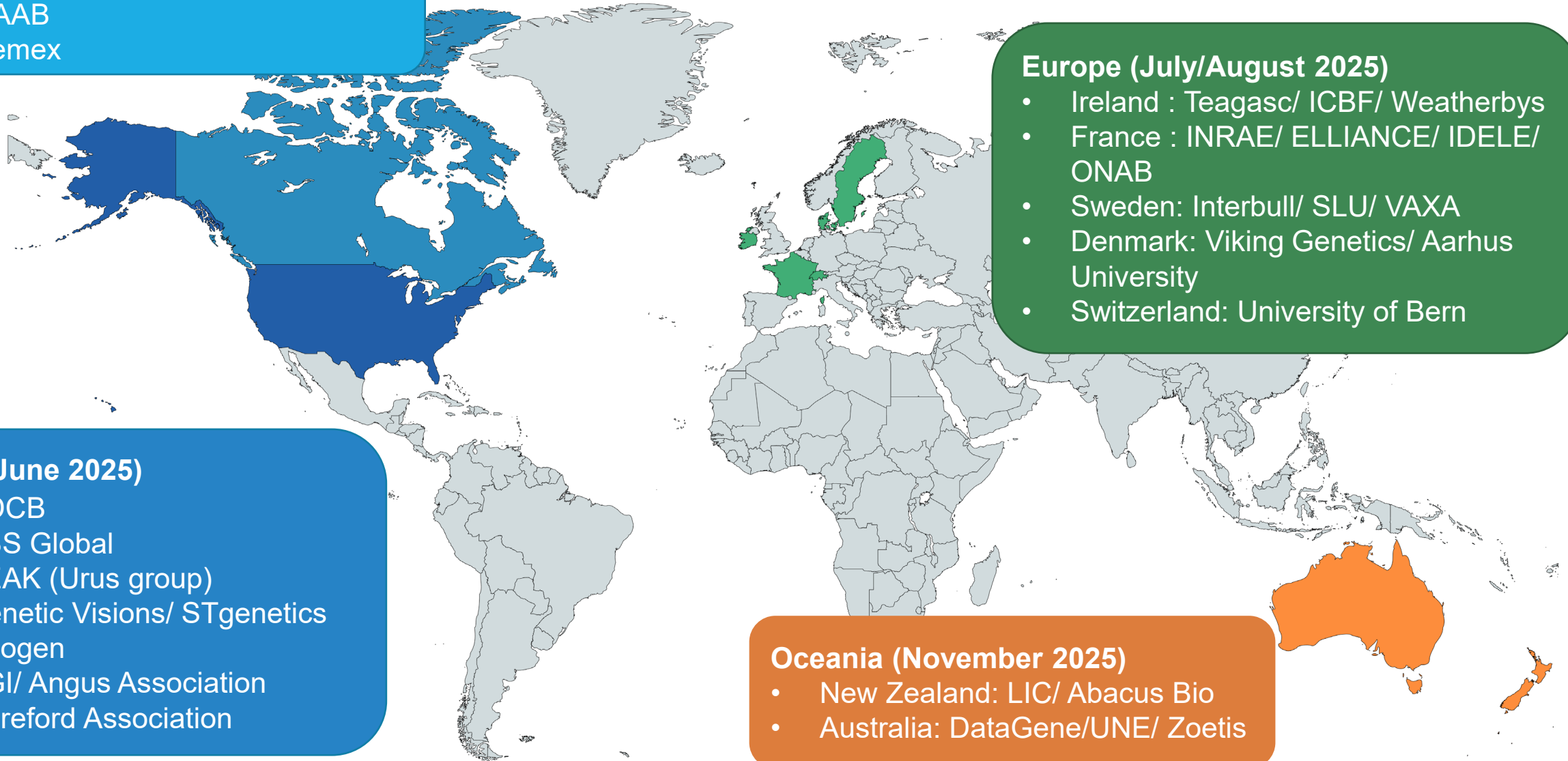
- Ireland : Teagasc/ ICBF/ Weatherbys
- France : INRAE/ ELLIANCE/ IDELE/ ONAB
- Sweden: Interbull/ SLU/ VAXA
- Denmark: Viking Genetics/ Aarhus University
- Switzerland: University of Bern

## USA (June 2025)

- CDCB
- ABS Global
- PEAK (Urus group)
- Genetic Visions/ STgenetics
- Neogen
- AGI/ Angus Association
- Hereford Association

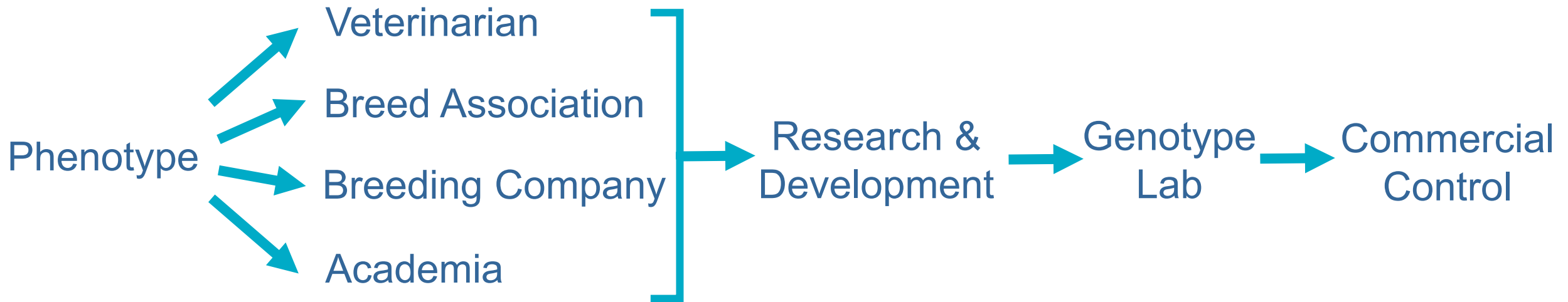
## Oceania (November 2025)

- New Zealand: LIC/ Abacus Bio
- Australia: DataGene/UNE/ Zoetis



# Conventional Pathway

Phenotype → Genotype



# Genomic Screening

Genotype → Phenotype



# Report Overview

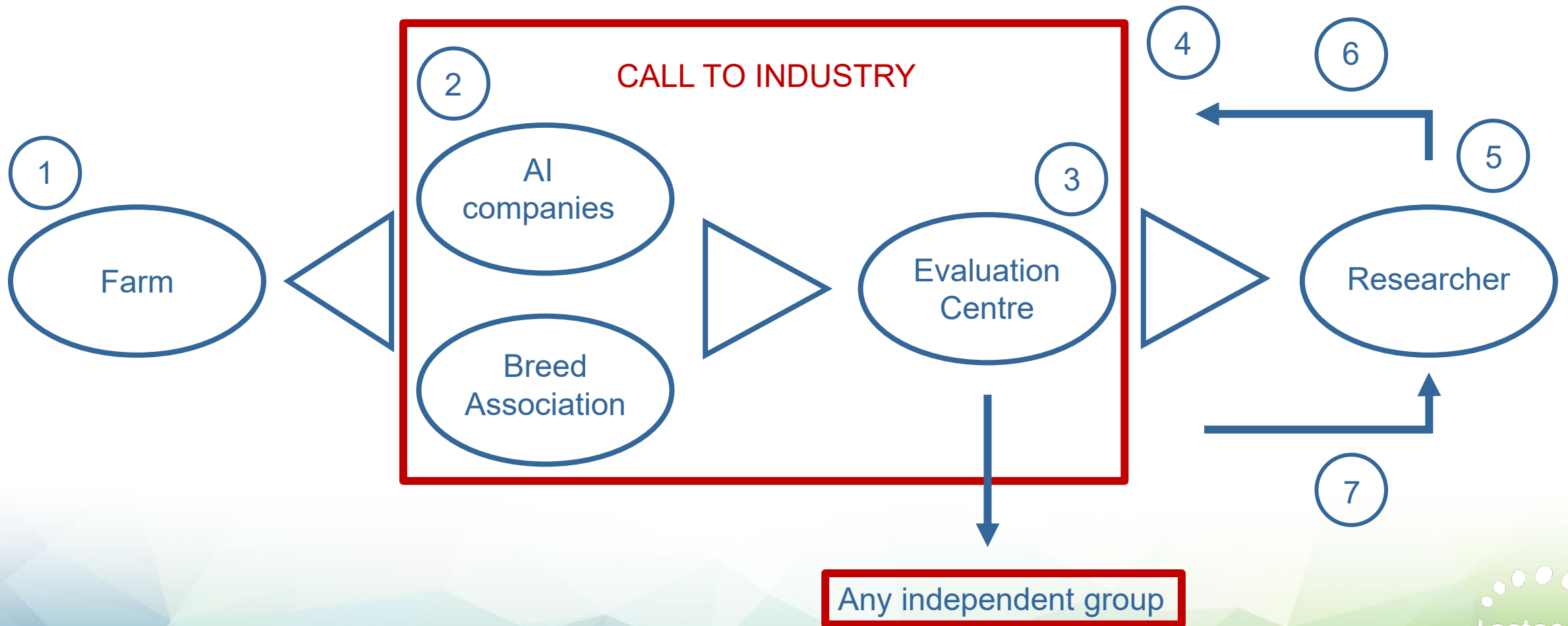


# Major Talking Points

How do we:

- Incentivize producers to report information?
- Encourage open communication across chain?
- Encourage research institutions to not patent information?
- Standardize the nomenclature process?
- Develop data repositories and/or biobanks?

# National System Example



# Roadmap to Success: National System for Genetic Abnormality Recording

## PHASE 1: ESTABLISH THE FRAMEWORK

### 1 Industry Coordination



Engaged all key stakeholders:

- AI companies
- Breed associations
- Evaluation centres
- Research institutes
- Producer groups

**Establish an independent national repository**

### 2 Data Infrastructure



Build data pipeline and standards

- Standardized formats
- Secure data transfer
- Automated flagging systems

**Ensure information from all sources integrates seamlessly**

### THE BENEFITS Why This Phase Matters



**Strong governance and industry buy-in**



**Reliable, efficient information flow**

# Roadmap to Success: National System for Genetic Abnormality Recording

PHASE 1: ESTABLISH

PHASE 2: OPERATE THE SYSTEM

## 3 Industry Education & Engagement



Ensure producers understand the system & see the benefits

- Clear communication
- Simple reporting tools
- Feedback & surveys

**Producer participation is the key to success**

## 4 Case Reporting & Investigation



Abnormalities first observed on farm

- Photos of affected calves
- Sire & dam information
- Description of signs

**Reports flow to national repository for flagging**

## 5 Research Discovery & Implementation



Investigate flagged cases & identify casual variants

- Genomic & sequencing analyses
- Partner review & agreement

**Release results into PUBLIC DOMAIN**

Implement in breeding infrastructure:

- Publication of findings
- SNP panels
- Gene & haplotype tests
- Routine screening

## THE BENEFITS Why This Phase Matters



**High engagement, high quality data**



**Early detection**



**Rapid, open adoption across industry**

# Roadmap to Success: National System for Genetic Abnormality Recording

PHASE 1: ESTABLISH

PHASE 2: OPERATE

PHASE 3: EXPAND AND COLLABORATE

## 6 Biobanking & Sample Infrastructure



Strengthen the biological foundation for discovery

- Routine tissue collection
- Standardized kits
- National biobank for long-term storage

**Samples available for future analyses as technology evolves**

## 7 International Collaboration & Global Surveillance



Work together across borders to protect global cattle populations

- Cross-country validation
- Share data & findings
- Use global resources (Interbull)
- Coordinate strategies

**Ensure information from all sources integrates seamlessly**

## THE BENEFITS Why This Phase Matters



Global insight, coordinated action, better outcomes



Support long-term sustainability



Enables international collaboration



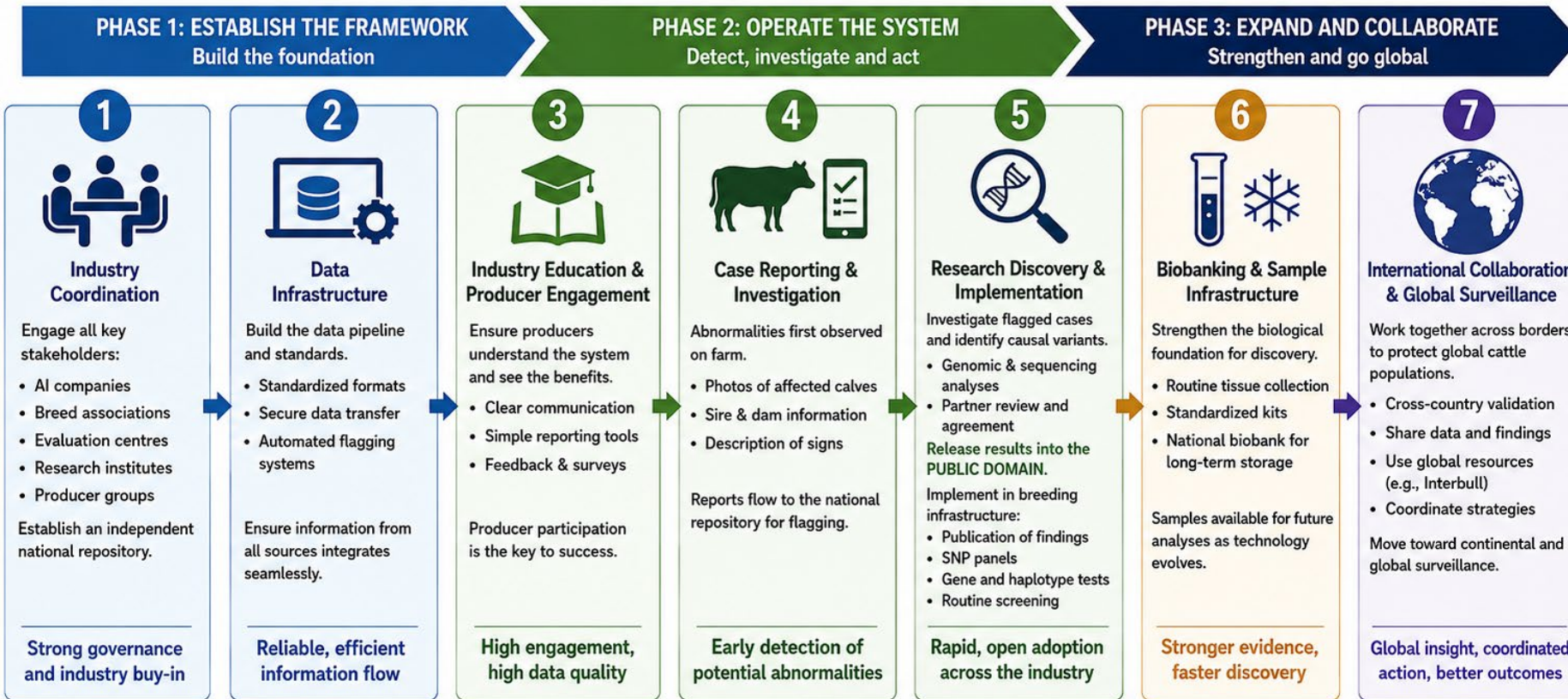
**Thank you!**

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# Roadmap to Success: National System for Genetic Abnormality Recording

A stepwise approach for countries to detect, investigate and control genetic abnormalities in cattle populations.



*From reporting to surveillance: working together to safeguard the genetic health of cattle populations.*

