



Federal Ministry
of Agriculture, Food
and Regional Identity

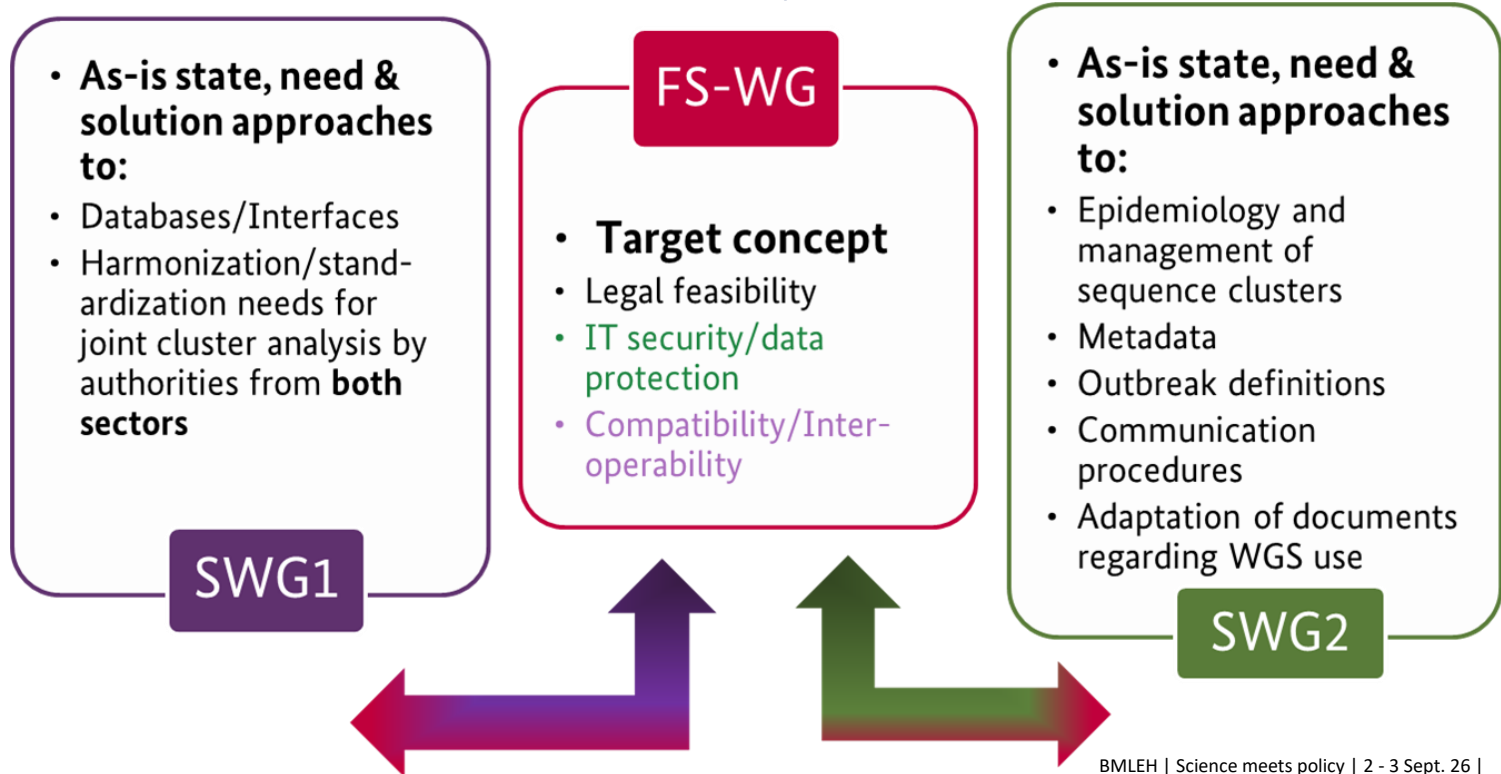
From Genomic Signals to Public Health Action – Lessons Learned from Implementing Cross- Sectoral WGS in Germany

EFSA 3rd Science Meets Policy conference, 2-3 September, Rome, IT

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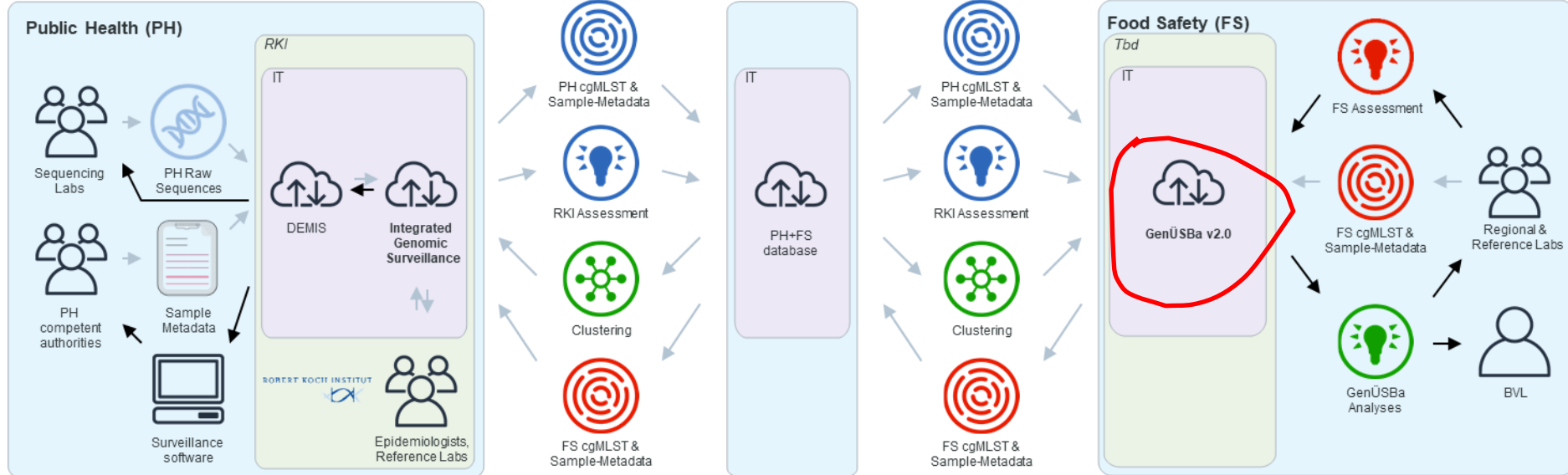
Quick recap

I was in Parma at the “Science Meets Policy” in 2023



Quick recap

I was in Barcelona at the “Global Microbial Identifier 14” in 2024 😊



Courtesy of BfR

Germany's experience: from genomic signals to action

- In DE, **WGS** has become an **important component** of **fbo investigation**.

This presentation focuses on how Germany organised this process in practice.

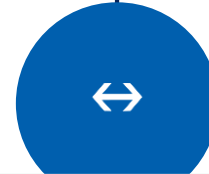
safety and the federal states.

- The **central task** was therefore to establish **working arrangements** that allow **genomic signals** to be **interpreted jointly** and translated into **action**.



Genomic signal

Cluster detected in human or food surveillance



Cross-sectoral exchange

RKI, BVL, BfR and Länder share information



traceability and metadata are combined



Action

Public health and food safety measures are informed by the evidence

Building evidence under uncertainty

Anonymised outbreak example as information became available

Available evidence

- 1 Unusual genomic cluster detected**
Rare *Salmonella* serovar, first signal from surveillance
- 2 Affected federal states informed**
Initial information shared by public health side
- 3 Cross-sectoral exchange initiated**
RKI, BVL, NRL and Länder start joint exchange
- 4 Product hypothesis generated**
Exploratory interviews point to a sweet spread
- 5 Case-control study initiated**
Hypothesis tested analytically
- 6 Household product sample positive**

Time

5 Feb 2026

9 Feb 2026

25 Feb 2026

4 Mar 2026

~11 Mar 2026

23 Mar 2026

Remaining uncertainty

- ? Source
- ? Common exposure
- ? Food vehicle
- ? Hypothesis not yet confirmed
- ? Association not proven
- ? Evidence still requires interpretation

Progress was not linear: each new piece of information reduced uncertainty — and raised new questions.

Independent findings begin to converge

The investigation moved forward because different lines of evidence supported the same hypothesis

Combined evidence strongly supported the product hypothesis – but source attribution and extent of affected production still required investigation

Exploratory interviews

A specific **sweet spread** was repeatedly reported



Analytical epidemiology

8/10 cases reported consumption;
aOR=64



Household sample

S. Bochum detected in empty jar



WGS comparison

Food isolate confirmed as **0 AD match**

What had to come together?

No institution held the complete picture

Relevant information was distributed across

- sectors,
- levels of government and
- organizations

**Local PH
authorities**

Case interviews
and exposure
histories

RKI / NRZ
Surveillance,
epidemiology &
human WGS

**Local FS
authorities**

Sampling,
inspections &
enforcement

**Shared
evidence**

**Challenge: organizational structure has to connect evidence
without replacing legal responsibilities or sectoral expertise.**

BVL
Cross regional
coordination &
cluster overview

BfR / NRL
Food side lab
expertise & WGS

Food business operator
Production, retained
samples & traceability

From the 2023 concept to today's implementation reality

Germany's target remains GenÜSBa — but a structured interim workflow was needed before the platform becomes operational

What we presented in 2023

- A **national cross-sectoral** WGS data management **system**
- **Continuous alignment** of sequence data
- **Not only for confirmed outbreaks**



What became clear in practice

- Relevant genomic **matches** were **already** being **detected**
- **GenÜSBa** still **needs** technical and organisational support
- Routine work required agreed **contacts, metadata and communication routes**
- The system had to work while the final infrastructure was still emerging

What we did meanwhile

Germany's practical response: an interim workflow

Jointly developed in the **food sector**, enables **working across sectors** while the permanent digital infrastructure is **still** under **development**

1

Named coordination

Each federal state nominated a food-safety **contact**

GenÜSBa remains the target architecture — the interim workflow bridges the implementation gap since 1 Jan 2025

3

Shared cluster overview

BVL consolidates records and makes the **overview available to authorised users**

4

Regular cluster calls

Länder, BVL & BfR **discuss** relevance, priorities and **next steps**

The interim workflow reached operational scale

Snapshot of the **consolidated food-safety cluster list**, 20 July 2026

≈ 2.900

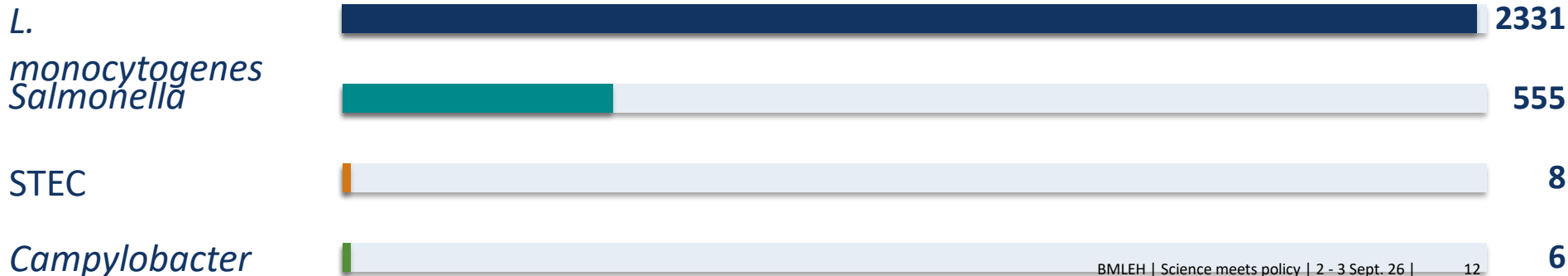
≈ 320

16

868

A manual, coordinated workflow created **national visibility**
before GenÜSBa starts.

Composition of records



What practice teaches us

Operational **experience** helps define the **requirements** for the **permanent system**

1 Visibility

Users need to know that a **relevant**

2 Prioritisation

Not every genomic match requires the

3 Context

Cluster interpretation depends on **timely**,

Workflows inform the platform - not the other way around.

4 Responsibility

The system must **identify competent authorities** and contact points

5 Traceability

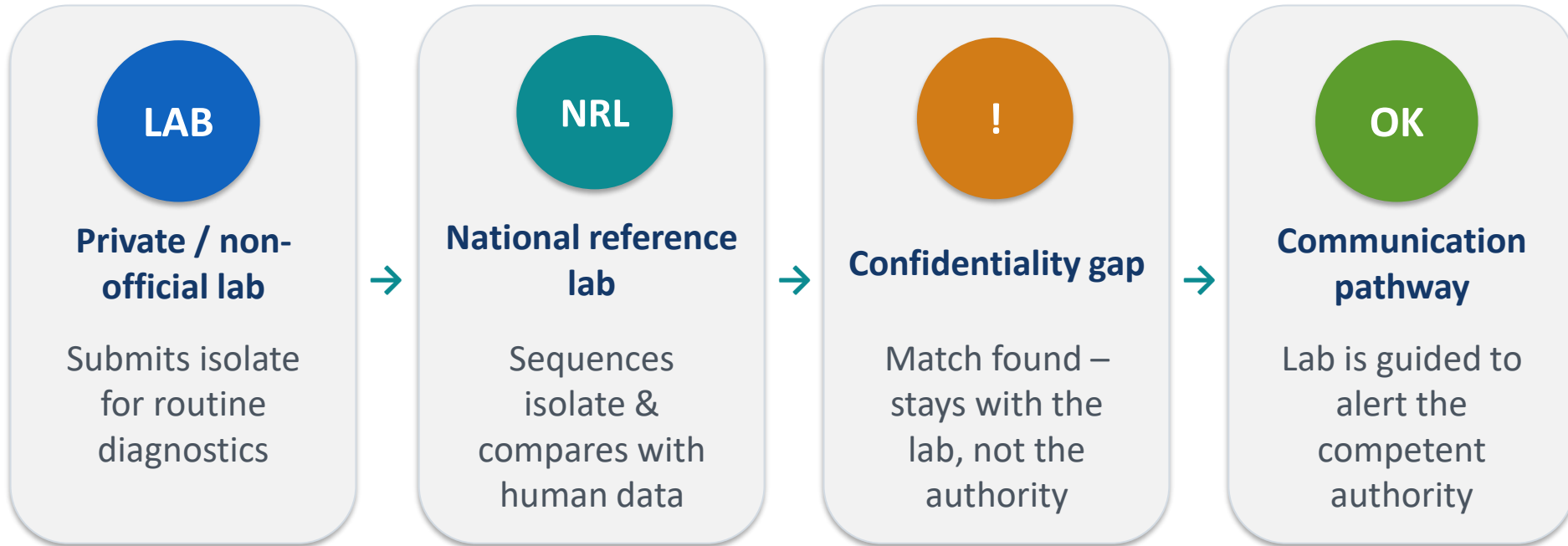
Food-chain information must be **linked**

6 Communication

Automated alerts cannot replace expert discussion and coordination

Private laboratories: a relevant data holder

Private-sector isolates often reach national reference laboratories – and can produce a match with human isolates



Thanks to BfR, BVL, Länder & Public Health side
Thank you for your attention!

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