WGS joint with FBO, Scientific Network for Zoonoses Monitoring Data
Minutes of the 5th specific meeting

14-15 October 2026
13:30-18:00 / 08:30-12:00
Minutes agreed on 29 October 2026

Location: EFSA - Parma (Board Room) and Web conference

Attendees:

- Network Participants:

Country	Member State Organisation
Austria	Austrian Agency for Health and Food Safety
Belgium	Federal Agency for the Safety of the Food Chain
Croatia	Croatian Agency for Agriculture and Food (HAPIH)
Czech Republic	State Veterinary Administration of the Czech Republic (SVA)
Denmark	Technical University of Denmark - National Food Institute (DTU)
Estonia	Health Board; Agriculture and Food Board
Finland	Finnish Food Authority
France	French Agency for Food, Environmental and Occupational Health & Safety (ANSES)
Germany	Federal Office of Consumer Protection and Food Safety (BVL); German Federal Institute for Risk Assessment, BfR
Greece	Ministry of Rural Development and Food; Hellenic National Public Health Organisation
Iceland	Icelandic Food and Veterinary Authority (MAST)
Ireland	Department of Agriculture, Food and the Marine; Food Safety Authority of Ireland; Health Protection Surveillance Centre
Italy	Istituto Zooprofilattico Sperimentale delle Venezie; Istituto Zooprofilattico Sperimentale dell'Abruzzo e del Molise "G. Caporale"; Istituto Superiore di Sanità
Latvia	Institute of Food Safety, Animal Health and Environment BIOR; Food and Veterinary Service of the Republic of Latvia
Luxembourg	Luxembourg Veterinary and Food Administration (ALVA); National de Santé (LNS)
Netherlands	Netherlands Food and Consumer Product Safety Authority (NVWA)
Norway	Norwegian Veterinary Institute
Poland	National Institute of Public Health; National Veterinary Research Institute; General Veterinary Inspectorate

Portugal	Instituto Nacional de Saúde Doutor Ricardo Jorge (INSA); DGAV; Autoridade de Segurança Alimentar e Económica (ASAE)
Romania	National Sanitary Veterinary and Food Safety Authority (ANSVSA)
Slovak Republic	State Veterinary and Food Administration of Slovak Republic (SVPS); Public Health Authority of the Slovak Republic
Slovenia	University of Ljubljana, Veterinary Faculty; Ministry of Agriculture, Administration for Food Safety, Veterinary Sector and Plant Protection
Spain	Ministry of Agriculture, Fisheries and Food; Agencia Española de Seguridad Alimentaria y Nutrición (AESAN)
Sweden	Swedish Veterinary Agency (SVA)

- Observers:
  Competent authority (Switzerland): Federal Food Safety and Veterinary Office FSVO
- Other EU Agencies representatives: ECDC, EURL *Listeria*, EURL *Campylobacter*, EURL *Salmonella*, EURL VTEC

- EFSA:
  BIOHAW Unit: Mirko Rossi (chair), Eleonora Sarno, Valentina Rizzi, Beatriz Guerra, Stefania Tampach
  IDATA Unit: Anca Stoicescu, Catalin Iancu

1. Welcome and apologies for absence

The Chair welcomed the participants.
Apologies were received from Bulgaria, Cyprus, Hungary and Malta.

2. Adoption of agenda

The agenda was adopted without changes.

3. Agreement of the minutes of the 4th Network meeting held on 13-14 October 2025, in Parma or via web-conference

The minutes of the 4th Network meeting had been previously agreed by written procedure on 30 October 2025 and published on the EFSA website on 30 October 2025.

All the action points for EFSA identified at the 4th Network meeting were closed and the results of the actions presented.

AP1 *(Release a dedicated MTX catalogue hierarchy for WGS and FBO in 2026)* EFSA briefly presented the plan to apply the FoodEx2 catalogue to WGS data collection, with full implementation expected by 2030. In the interim, new WGS portal functionality allows the data steward to expand the list of combined FoodEx2 terms. EFSA therefore invited Member States to submit requests for additional terms and to report missing or inadequate terminology to WGS@efsa.europa.eu.

AP2 (*Send protocol for final revision to the network via email*) The protocol was submitted to the network and feedback was collected.

AP3 (*To contact each country officer and agree on a tailored approach for sharing contact details during genomic surveillance activities*) Country-specific information sharing will continue on a bilateral, case-by-case basis rather than through a global mechanism.

AP4 (*To launch a survey to gather feedback from Member States on potential challenges and practical solutions for linking WGS and FBO data, which will guide the design and implementation of the integration for the 2027 data collection*) Survey results on linking FBO and WGS systems would be presented during the meeting.

4. New collaboration agreement with ECDC (including technical specifications and protocol)

EFSA presented the final draft of the new collaboration agreement with ECDC on the cross-sector sharing and use of whole genome sequencing data and related metadata, which will replace the 2022 agreement. Its objective is to link human, food, animal, feed and environmental isolates in support of cross-border outbreak detection, investigation and joint assessments. The package comprises the main agreement, an operational EU protocol and technical specifications.

EFSA and ECDC remain responsible for their respective sectors while jointly ensuring secure data storage, bidirectional exchange, comparable bioinformatics and harmonised communication. Data ownership and intellectual property remain with the original providers, and data may be used only for the agreed purposes. The operational protocol covers routine cluster detection and event-based analyses for the five bacterial species supported by the WGS system. Outbreak-assessment criteria and crisis-management procedures fall outside its scope and are addressed under separate frameworks. The seven-step process comprises: 1) collection of human and non-human data; 2) cross-sector queries between the EFSA and ECDC systems; 3) exchange of matching genomic profiles and metadata; 4) notification of

users when matches are detected; 5) event response and information gathering; 6) monitoring of evolving events; and 7) assessment and preparation of ECDC or joint EFSA–ECDC outputs. Member States and reference laboratories contribute throughout the process. The technical annex formalises the existing query-response system between EFSA and ECDC. Its key features include machine-to-machine API communication; exchange of cgMLST profiles and agreed metadata; routine and ad hoc ECDC queries; security, audit and logging controls; quarterly reviews of schemas and interoperability; and contingency procedures for system downtime. Raw reads and assemblies are not exchanged. During routine query cycles, ECDC retains EFSA profile data temporarily, while EFSA stores visualisation outputs and selected metadata but does not retain ECDC profiles, supporting GDPR compliance. Both organisations also periodically review the compatibility of their bioinformatics methods.
The discussion raised the following points :

- EFSA indicated that the agreement was being finalised and was expected to be submitted to the Executive Directors for signature within approximately one month.
- In response to questions on bioinformatics comparability, EFSA and ECDC explained that their pipelines have been compatible since the systems were launched in 2022. This compatibility is maintained through regular technical reviews, particularly of allele-calling methods, schemes and quality-control criteria, with updates coordinated wherever possible. Participants also requested clarification on the metadata exchanged. EFSA confirmed that the technical specifications cover the JSON schemas, metadata structures, query formats and mapping requirements needed to support interoperability between the two systems.
- Regarding event-based analyses, ECDC clarified that an initial *ad hoc* query is performed when an event is created and that further queries may be run as the event evolves. Their frequency depends on the nature of the event and the pathogen and therefore remains flexible rather than being prescribed in the agreement.
- Questions were also raised about access to EpiPulse for food-safety users. EFSA explained that such users may be nominated, with requests coordinated through EFSA and formal nominations submitted through the relevant national channels and country officers.

5. ECDC updates of the One Health WGS system (including cluster detection and nomenclature)

ECDC provided an update on the One Health WGS system, explaining how public health genomic data submitted through EpiPulse Cases and EpiPulse Events are processed and integrated with EFSA's platform. Depending on whether raw reads or assemblies are submitted, the system applies the relevant bioinformatics pipeline, including assembly, quality control, allele calling and cluster detection using a single-linkage approach. As of the end of August, the ECDC database contained approximately 26,000 sequences from 28 EU/EEA countries, and around 33% of human isolates belonged to clusters with cross-sectoral matches in the EFSA system, illustrating the value of the One Health approach. ECDC noted that single-linkage

clusters are dynamic: isolates are grouped using predefined allelic-distance thresholds, and intermediate or "bridging" isolates may connect or merge clusters over time, making the method useful for long-term surveillance. The presentation also compared traditional cluster names, based on the year, pathogen and cluster identifier, with hierarchical cluster addresses that describe relatedness across several genetic-distance levels and could complement or replace current naming conventions in the future. For outbreak investigations, representative isolates linked to an EpiPulse event can be queried against both ECDC and EFSA databases using flexible thresholds tailored to the pathogen, serotype and outbreak characteristics. Queries may be repeated as the event evolves, and both the presence and absence of matches provide useful evidence. An example showed how cross-sectoral matches between human and food isolates can help identify likely food sources.

ECDC explained that EpiPulse events remain linked to the relevant clusters when mergers occur and that historical information is retained, while more stable naming approaches are being explored. Participants noted that routine surveillance submissions remain uneven, mainly because of technical capacity and staffing constraints, highlighting the need for greater automation and simpler submission processes. ECDC also confirmed that, although the two pipelines are not identical, their methods are closely aligned and regularly reviewed to ensure compatibility for surveillance purposes.

6. Data collection requirements and clarification on data transmission in scope of Implementing Regulation 2025/179

EFSA presented the data collection and transmission requirements under Implementing Regulation (EU) 2025/179, applicable from 23 August 2026. Member States must collect relevant isolates associated or suspected to be associated with food-borne outbreak investigations, sequence at least one representative isolate per relevant type, and submit the WGS results and required metadata without undue delay. These obligations also apply when a Member State investigates samples linked to an outbreak in another country, while national authorities remain responsible for determining whether an isolate is relevant. EFSA clarified the distinction between mandatory outbreak-related submissions and voluntary genomic data sharing, and confirmed that raw reads, assemblies or typing results may be submitted. The discussion focused on accreditation, coordination of national data flows, outbreak identification and links with RASFF notifications. EFSA explained that the Outbreak Investigation ID determines the mandatory status of a submission: each submission may refer to one ID, while one ID may cover several submissions. Member States are responsible for managing or merging related investigations, and changes are tracked through major or minor version updates. Only outbreaks occurring within the reporting country should be classified as national, although reporting remains mandatory for samples investigated in connection with outbreaks abroad. Where applicable, the relevant RASFF reference should be linked to the traceable sampling unit rather than entered as free text. EFSA emphasised that WGS data should be submitted as soon as available, without waiting for the investigation to conclude or for annual reporting.

7. ONT sequencing and new Illumina sequencing devices experience from Germany

The German team presented validation results for new Illumina platforms and Oxford Nanopore Technologies (ONT), focusing on cgMLST comparability and quality assurance. Short-read platforms produced broadly consistent assemblies and allele profiles, although differences in quality-score interpretation increased apparent contamination signals, highlighting the need to reassess quality-control thresholds when technologies or software change. ONT results from approximately 200 strains were generally within 0–1 allele differences from Illumina when sufficient depth, super-accuracy basecalling and polishing were used. Polishing substantially reduced variation between basecalling models and assemblers, while a Germany–Austria proficiency study confirmed strong inter-laboratory reproducibility. Overall, ONT and newer short-read technologies can provide comparable cgMLST results when workflows are properly validated and include appropriate basecalling, assembly, polishing and quality-control procedures.

8. Guidance on ONT sequencing

Following the German presentation, EFSA introduced the draft guidance on ONT sequencing. The guidance was developed by the Champions Group, with contributions from several Member States. It provides required sequencing conditions for ONT, recommended bioinformatics approaches and quality criteria for ONT assemblies. EFSA also announced plans to support the upload of structured technical metadata in JSON or YAML format to document sequencing conditions. The Network supported the draft guidance in principle after the champion group would revise the document taking into consideration the latest German evidence, particularly on polishing, assembler selection and recent validation results.

9. Implementation of 2025/179: lesson learn next steps and future development

EFSA presented lessons from the Science Meets Policy conference and the strategy for implementing Regulation (EU) 2025/179. The discussion emphasised that genomic evidence must be interpreted alongside epidemiological, traceability and contextual information, and that effective routine data sharing depends on trust, clear governance, defined purposes and protection of data ownership and confidentiality. EFSA outlined a phased approach: stabilising the system and supporting mandatory submissions in 2026, expanding automation and data types in 2027–2028, and scaling up routine sharing beyond the legislative minimum by 2029–2030. Participants supported a dedicated Member State workshop (tailored, tentatively planned for spring 2027) to exchange practical experience on national coordination, One Health collaboration, industry engagement, accreditation and implementation barriers. EFSA will proceed with preparations and invite countries to nominate representatives.

EFSA presented the main developments introduced through the EFSA WGS system Releases 2.0 (June 2026) and 2.1 (September 2026), including workflows supporting

Regulation (EU) 2025/179, outbreak investigation IDs, new sampling unit and RASFF fields, improved portal and batch-upload functions, expanded scope including *Campylobacter jejuni* and *Campylobacter coli*, third-party submitter roles, a modality for performing test submissions and an API for automated submission of sequence data and typing results. Continued webinars and training will support implementation. EFSA requested the Network to perform decisions on two points: non-enterica *Salmonella* subspecies, and the quality checks (QC) applied to Illumina sequencing.

Concerning the less common *Salmonella enterica* subspecies, the network agreed that they fall within the Regulation's scope but are not always adequately assessed by current EFSA bioinformatic pipelines, cgMLST schemes and quality-control thresholds. EFSA and ECDC will therefore benchmark pipeline performance and review blocking criteria, while Member States are encouraged to submit relevant sequences and validation datasets.

Regarding quality controls for Illumina sequencing, the Network considered the current metrics appropriate but requested their continued evaluation. EFSA will review the thresholds with Member State input, explore alignment with ECDC and continue the technical assessment through the Champions Group.

10. Interaction Between WGS Data Collection and FBO Annual Reporting

EFSA proposed linking WGS data collection with annual food-borne outbreak reporting through the Outbreak Investigation ID generated by the WGS system, using it as a common identifier for the five pathogens covered. The Network supported a phased implementation: the field will initially be optional or subject to a warning for the 2027 data collection, allowing Member States time to adapt their national workflows, and will become mandatory in 2029 for the 2028 data collection.

The discussion clarified that FBO reporting remains country-based. In a multi-country outbreak, each Member State reports its own national outbreak data, meaning that the same event may be represented by several country reports rather than a single EU-level report. Whether an Outbreak Investigation ID is included depends on the national food investigation and the available evidence.

Participants highlighted challenges arising from fragmented national data flows, coordination among laboratories, outbreak investigators and reporting officers, and the consistent recording of evidence categories. EFSA will develop the required data-model field, tools and guidance, including versioning arrangements, while Member States will strengthen national coordination and procedures for recording and maintaining the correct identifier.

11. Group discussion on data sharing and use

The discussion considered three scenarios on assessing the relevance of food isolates and determining the appropriate reporting pathway. The first involved three *Salmonella Enteritidis* isolates identified through a targeted EFSA data call supporting a joint EFSA–ECDC assessment, with varying genetic proximity and epidemiological links to the outbreak cluster. The second concerned routine monitoring of a *Listeria*

monocytogenes cluster and a subsequent EFSA data call: one isolate matched the human cluster but fell outside the requested food category, while other isolates met the product scope but had not yet been compared with the human cluster. The third addressed a food *Salmonella* isolate that matched a previously investigated outbreak strain but was detected several months later in a different food vehicle. For each scenario, participants considered whether submission was required, whether it should follow the mandatory or voluntary reporting pathway, and which contextual data should accompany the submission.

The discussion showed broad agreement on one central principle: when there is uncertainty, sharing sequence data is generally considered valuable. Across all scenarios, participants repeatedly emphasised that making data available supports surveillance, matching activities, and outbreak assessment, even when there is disagreement about whether a submission should be classified as mandatory or voluntary.

The exercise highlighted that the most difficult questions are not about whether data have value, but about how regulations should be interpreted in borderline situations. Countries often reached different conclusions when evaluating the same information, particularly when evidence was incomplete or indirect. A recurring theme was the challenge of distinguishing between mandatory and voluntary submissions. Participants recognised that this distinction frequently depends on national interpretation of concepts such as outbreak investigation, suspected association, and epidemiological evidence. Different countries may reach different, yet reasonable, conclusions when faced with the same circumstances. The discussions also demonstrated that genetic matching information is one of the strongest drivers for decision-making. When a food isolate matched a known human cluster, many participants viewed this as an important argument for submission. However, opinions differed on whether a match alone is sufficient or whether supporting epidemiological evidence is also required. Another major lesson was the importance of traceability information, product links, RASFF notifications, and outbreak-related context. Participants repeatedly weighed these factors alongside genetic evidence when deciding whether data should be shared and under which reporting pathway.

The exercise revealed several points where interpretations differed substantially across countries:

- Whether genetic matching alone is enough to justify mandatory reporting.
- How much epidemiological evidence is needed before an isolate can be considered associated with an outbreak.
- Whether investigations linked to outbreaks occurring in another country should trigger mandatory reporting.
- How to interpret data calls and monitoring activities that are not linked to a formal outbreak assessment.
- How far in time an historic outbreak remains relevant when new matching isolates are identified.

Rather than identifying a single correct answer, the exercise demonstrated that these situations often exist in a grey zone where professional judgement is required.

Participants gained a clearer understanding that:

- The most important operational decision is often to ensure that relevant sequence data reach the EFSA WGS system.
- The distinction between mandatory and voluntary submissions affects compliance requirements and metadata expectations, but the sequence itself can still contribute to surveillance and matching activities.
- Countries retain responsibility for deciding whether an isolate is associated or suspected to be associated with an outbreak.
- Data can initially be shared and later reassessed if additional evidence becomes available.

The discussion also clarified that the outbreak investigation information is the critical element used to distinguish mandatory from voluntary reporting, a point that several participants identified as needing further guidance and training.

The exercise successfully exposed the complexity of real-world decision making around sequence submission. It showed that there is rarely a simple black-and-white answer in borderline cases. The strongest common conclusion across the groups was that data sharing remains the preferred approach when uncertainty exists, while the final determination of reporting status must be made by the competent authorities of each country based on their interpretation of the available evidence.

12. WGS for AMR monitoring

EFSA presented current AMR surveillance activities and the use of WGS for selected resistant bacteria, noting that many countries now have the necessary technical capacity. A draft proposal for the post-2027 monitoring period is exploring the potential for broader use of WGS.

13. Any Other Business

- Italy informed participants about a EFSA Tailored-made activities project led by Italy and Portugal to pilot the deployment and distribution of the Cohesive Platform for genomic surveillance in Member States. The platform is intended to provide pipelines compatible with EFSA requirements and support API-based submission to the EFSA WGS system. Member States interested in participating were invited to contact the project team by email.
- The network members agreed to organise the 2026 network meeting side-by-side with the main zoonoses network meeting in Parma the 6th October 2027.

14. Conclusions

- The chair reviewed the key topics covered over the two-day workshop, including the new collaboration agreement with ECDC, updates on WGS activities, data submission requirements under Regulation 2025/179, and discussions on guidance documents and training needs.
- The FAQ for the Commission Regulation was highlighted as an important reference for interpreting the new requirements.

- Participants agreed that additional training and practical examples are needed to support countries in applying the new data submission requirements and interpreting complex scenarios.
- There was general support for the WGS guidance document related to Oxford Nanopore Technology sequencing, with the next step being review through the Champions Group, distribution to data providers and networks, and potential reassessment in 2027.
- A workshop was agreed in principle. EFSA will circulate information to Member States, who should nominate participants before the end of the year.
- For non-enterica *Salmonella enterica* subspecies organisms, validation work will continue and supporting sequence data provided by Member States will be used to assess schemas and quality checks.
- Current quality control criteria were considered generally appropriate, although further discussion within the Champions Group may lead to future adjustments.
- Participants agreed on the need to link outbreak-related data collections through an outbreak investigation identifier, with implementation planned through future data model changes.
- The group recognised that many questions remain regarding the distinction between mandatory and voluntary submissions. Member States retain responsibility for making final decisions, while EFSA will continue providing guidance and support.
- EFSA committed to expanding the WGS guidance resources and FAQ material, including consideration of a decision-tree style aid to support national decision making.
- An update was provided on future AMR monitoring technical specifications. Whole genome sequencing may become an important component of future monitoring, subject to ongoing discussions and approval processes.
- A tentative date for the next WGS network meeting was proposed for October of the following year (6 October 2027), coordinated with other network meetings.
- A pilot project led by Italy and Portugal on deployment of a genomic surveillance platform compatible with EFSA systems was announced, and Member States were invited to express interest in participating.
- The meeting closed with thanks to all participants, distribution of the meeting survey, and logistical information regarding lunch and follow-up activities.

15. Closure of the meeting

The chair thanked the network representatives for the intensive and productive meeting and closed the meeting at 12:00 CET.

APPENDIX I: List of Action Points

List of action points agreed at the meeting

No	Agenda point	Action point	Deadline	Actor
1	6	Organise additional training and provide practical examples to support Member States in applying the data-submission requirements under Implementing Regulation (EU) 2025/179.	To be confirmed	EFSA
2	8	Revise the ONT sequencing guidance through the Champions Group, taking into account the latest evidence on polishing, assembler selection and validation results, and subsequently distribute the guidance to data providers and the relevant networks.	November 2026	EFSA and Champions Group
3	9	Organise a dedicated Member State workshop on national coordination, One Health collaboration, industry engagement, accreditation and implementation barriers, and invite Member States to nominate participants.	Nominations by December 2026; workshop in spring 2027	EFSA and Member States
4	9	Benchmark the performance of the EFSA and ECDC pipelines for less common *Salmonella enterica* subspecies and review the applicable quality-control blocking criteria; Member States should provide relevant sequences and validation datasets in the EFSA WGS system.	2027	EFSA, ECDC and Member States
5	10	Introduce the Outbreak Investigation ID in the FBO data model, initially as an optional field or warning for the 2027 data collection and as a mandatory field for the 2028 data collection.	2027–2028 data collections	EFSA and Member States