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From:	General Secretariat of the Council
To:	Delegations
Subject:	Digitalisation in food chain and veterinary controls
	Report on proceedings in the Working Party for Animals and Veterinary Questions (Chief Veterinary Officers)

Delegations will find in Annex a Presidency report on the proceedings on the topic of digitalisation in food chain and veterinary controls during the Slovenian Presidency in the Working Party for Animals and Veterinary Questions (Chief Veterinary Officers). The report was endorsed by all delegations at the informal videoconference of the members of the above Working Party on 14 December 2021[1].

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[1]   Confirmed by informal silence consultation WK 14860/2021 REV 2.

Digitalisation in food chain and veterinary controls

Report on proceedings

in the Working Party for Animals and Veterinary Questions (Chief Veterinary Officers)

1. Introduction

In the light of the increasingly relevant and omnipresent questions associated with the digital agenda, which are also highlighted in the Communications on the European Green Deal and on the Farm to Fork Strategy, the Slovenian Presidency introduced the issue of digitalisation in the context of food chain and veterinary controls and included this in the work programme of the Working Party for Animals and Veterinary Questions (WP CVO).

As noted in the introductory discussion document (WK 9317/21), official controls in those areas accumulate enormous quantities of data in all Member States. These are collected for various purposes, and are linked mostly to reporting and to the need to ensure transparency.

In line with modern trends in global digital developments, the Slovenian Presidency has aimed to bring forward the question of data connectivity. It should be possible to enable connectivity between the existing data in Member States. This would, in turn, add value to data collection by improving and optimising risk assessment, which would, as a consequence improve official controls.

For the European veterinary services to embark on a possible cooperation to modernise the digital aspect of their work, an assessment of the state of play in the Member States was needed. The expectation was that there would be significant differences between data collection, data management and reporting across various Member States. Such information is important so as to plan any future joint activities.

The Presidency led the discussion on this topic in WP CVO throughout the semester. In the first informal videoconference of the members of WP CVO on 15 July 2021, the Presidency presented a discussion note to the delegations (WK 9317/21) and informed the delegations of the questionnaire (WK 9317/21 ADD 1), which was transmitted to the delegations in the days following the meeting. Delegations were asked to provide their responses to the questionnaire by mid-September. The Presidency then analysed the responses and presented the results at the WP CVO meeting held in Brdo, Slovenia between 29 September – 1 October 2021 (WK11409/21 + ADD1). Following the discussion at the meeting, the Presidency presented to the delegations a proposal outlining the further steps that needed to be taken, as well as the recommendations to the Commission, which were to be included in a report (WK 12753/21). It set 28 October as the deadline for reactions.

To provide a wider context for the digitalisation issue, the Presidency invited representatives from EFSA and the Joint Research Centre (JRC) in the discussion.

2. Activities of WP CVO during the Slovenian Presidency

Highlights from the discussion

In the initial discussion, several delegations expressed their strong support for the inclusion of digitalisation in the WP CVO agenda. It is evident that delegations agree that the data collected in the system of official controls related to food safety, animal health and animal welfare could be used to improve risk analysis and optimise official controls.

Delegations also agreed that digital tools offer a number of potential and significant benefits, which should be explored. They welcomed the information on the ongoing project run by JRC, which focuses on the possible use of data in fighting food fraud (see below).

One of the most important problems highlighted in the discussion relates to the question of interoperability of data. All Member States have their own IT systems and data management rules. These have been developed independently from one another. In turn, data from different Member States may not be comparable.

Another notion, which is shared by a majority of delegations, is that guidance on data management is needed. The competent authorities in the Member States would benefit from a harmonised approach to the management of data. However, delegations drew attention to the question of the degree of harmonisation. Most delegations expressed their opposition to the legally binding harmonised rules.

The Presidency invited JRC to present the project, commissioned by DG SANTE, focusing on the scope for information-based risk analysis in relation to food systems. A possible outcome of this project is an algorithm, designed to process data from Member States in order to perform predictive analytics and improve traceability. Although the project was originally launched to look into monitoring of food fraud-related cases and anticipate vulnerabilities within supply chains, it does shed light on opportunities for similar projects in other areas in food chain and veterinary controls. The general idea covers solid IT infrastructure and algorithms, processing data from various contributors (MS competent authorities, EU agencies, producers, citizens, etc.) to generate information which could be used, for instance, to better target official controls, and better optimise national and European resources.

Challenges identified by the project are often in line with those the delegations outlined in the discussion, namely the financial commitments that would be needed, the non-harmonised manner of data collection and the need to ensure adequate data quality (interoperability, accessibility, reliability and relevance).

The Commission representatives also expressed support for the introduction of digitalisation in official veterinary and food chain controls. In addition to designing and maintaining complex IT systems, such as TRACES, RASFF, and more recently IMSOC, COM has also been working on exploring the options for further data connection and analysis. The idea is forward looking and in line with current trends. The use of complex algorithms in the analysis of data from various sources is, indeed, already found in organisations such as Europol.

COM will continue working on this issue, while addressing the needs and wishes of the Member States. The project presented by JRC is ongoing. COM is also looking into ways of expanding research on this topic in the framework of Horizon Europe, and also in public-private partnership. COM also mentioned the possibility of recruiting Seconded National Experts to work on the matter.

During the discussion on the future activities in digitalisation, COM suggested that Member States give specific guidance on the next steps. Because the topic is very broad, a general rule applies that the broader the research is set, the vaguer the results of the research would be.

COM addressed the concerns expressed by several Member States on the legal nature of future harmonisation. In the Commission's view, a certain minimal level of legally binding rules will be necessary. However, this should not discourage the debate, as there are several aspects that need to be looked into before decisions are taken on this question.

The questionnaire

A questionnaire was drawn up to assess how the Member States collect, process, analyse or store data, and to determine to what degree the Member States are interested in exploring and further promoting the digitalisation issue. Member States were asked to point out the specific areas where, in their view, the use of digital tools would be most welcome.

The questionnaire was divided into three parts. The first part explored the technical aspects of data management. Here, the focus was on defining the process related to the collection, storage and analysis of data. The Member States were also asked about the perceived reliability of their data and the possible move to data harmonisation across the EU. A 10-point scale was used to evaluate the level of automatisation of data processing, reliability and digitalisation of data.

The second part of the questionnaire defined the legal aspects. Here, three questions focused on defining obstacles in national legislation in relation to the collection of data, data ownership and processing of personal information. Again, a 10-point scale was used to give estimates on the impact level of the defined obstacles.

The last part of the questionnaire was designed to explore the level of interest among Member States as regards the question of making further progress on the issue. Member States were also invited to share their relevant experience or involvement in digitalisation-related projects in which they are currently involved. Open-ended questions were asked inviting Member States to indicate possible areas of future work.

All delegations replied to the questionnaire and gave valuable input on the organisation of their information systems. For the purpose of analysis, some results were categorised to give a better understanding of trends.

Data analysis was divided into seven parts. Here descriptive statistical analysis was used, followed by further analysis. Data management and analysis were carried out using STATA and Excel statistical software. The questionnaire covered the following questions:

I. *How is data collected?*

The Member States were asked about the predominant method used for data collection. A self-assessment scale from 1 to 10 was used in order to give general estimates, in which 1 is used to indicate "completely analogue" and 10 is used to indicate "completely digital".

According to the responses (n=26), the median level of "digitalisation" of data collection is around 6 with the highest recorded level being 8 (4 MS). Data was put into three categories. Most respondents considered their administrative operations as "medium" in terms of digitalisation (17 MS, 66%). Five (19% of MS) considered this as "low". Four (15% of MS) as "high".

II. *How do competent authorities store digital data?*

Member States were asked about the different ways in which they store data. The answers were not mutually exclusive. Possible answers were "paper-based storage", "server-based", "stored and used on personal computers", "cloud-based", and "other".

According to the results, the majority of data is stored in a client-server model architecture (41%). Use of advanced systems for storing data, accessible to a broader audience, such as cloud systems, was indicated in 9% of the answers. However, "paper-based storage" is still a widely used choice for the recording of information (28%).

III.   Is there a relationship between the analysis and reliability of data?

Member States were asked to give an estimation on a scale from 1 to 10, as to whether the analysis of data is primarily done automatically or manually. Secondly, Member States were asked to indicate how reliable they consider the information.

According to the responses, data is trusted more if the analysis of the information is done automatically. A clear correlation can be observed between the two variables.

IV.   Are the Member States interested in pursuing this topic further?

The questionnaire asked the respondents to indicate to what degree the Member States are interested in more collaborative work on this topic in the future. A scale level from q to 10 ("not at all interested" to "very interested") was used to define the interest level. This was later categorised in three levels ranging from a "low" (1 MS, 4%) to a "medium" (10 MS, 37%) and to a "high" level of interest (16 MS, 59%)(n=27).. A clear and strong interest among Member States was noted. The majority of Member States are interested in pursuing the topic further

V.   Interest in the harmonisation process across the EU and legal aspects involved?

The questionnaire asked the respondents whether the EU should move towards harmonisation of data management in food chain and veterinary controls.

While no Member State was against harmonisation, 15 MS (~55%) responded that harmonisation should not be legally binding, and 6 MS (~22%) believed that the harmonisation should be legally binding. 6 MS (~22%) were "not sure" how to proceed at this stage.

VI.   Is there a relationship between the level of digitalisation of data collection and the interest in future work?

The relationship between the level of digitalisation in data collection and the interest in future work was explored further. The rationale behind choosing the two variables is based on the idea that if the competent authority collects data in a more digital way, it is also more likely that subsequent stages of data management will be more digital and automatic. Therefore, data collection should be a good indicator of digital administrative operations within a competent authority.

In the analysis, an assessment was made of the difference between the mean in terms of "Digitalisation" ($x_1 = 5,65$) and the mean in terms of "Interest in the way forward" ($x_2 = 7,69$). The study found a clear difference between the two means (p-value $< 0,001$).

There is a significant tendency and a clear shift towards a more digital future. In other words, there is a clear difference in the way we perceive the level of digitalisation in the Member States today, and the direction in which we want to go.

VII.   What are the possible obstacles in the existing national legislations for achieving digital transformation?

The questionnaire asked Member States to score on a scale from 1 to 10 to what extent a national legislation covering administrative procedures would be likely pose obstacles on the collection of data, data ownership and processing of personal information.

The results indicate that there is no overall trend across the Member States suggesting that any of the three proposed areas would pose a significant barrier to achieving the goals in question. However, there is a great variability between the Member States in attaching relevance to the three proposed areas. In some member states national legislation on data collection, data ownership and personal data may pose substantially relevant challenge.

The Member States have also identified other potential challenges, such as investments in hardware and software, the training of staff, and questions of connectivity (GSM coverage).

An open-ended question in the last part of the questionnaire asked respondents to indicate possible areas in which digitalisation tools could be applicable in their line of work.

The analysis of their responses identified a number of areas that need to be taken into account:

- Setting general standards for interoperability of data within and between MS, along with defining terminology (sample, unit, result, etc.).

- Simplifying data input, reporting and cooperation between competent authorities

- Including new sources of data (keepers, laboratories and FBOs)

- Gradually phasing out paper-based procedures

- Establishing guidelines on efficient and effective data analysis

- Developing machine learning (AI)

- Planning official controls based on data analysis (knowledge-based risk assessment)

- Building a single IT system (per MS), incorporating all databases in use

In more specific areas of work MS identified additional situations where digitalisation could be used.

In food safety, inclusion of HACCP information was mentioned as well as the digitalisation of exchange of data, as required by Regulation 853/04 (Annex II and III).

Several Member States raised the issue of the preparation of annual reports for EFSA, explaining that this was a specific task in which a digital tool would be very useful.

Border controls could be improved with the harmonisation of BIP practices, based on digitalisation. Work should continue in the field of electronic certification. TRACES should be expanded and used for the monitoring of some animal welfare parameters (such as means of transport).

In the field of animal health and the use of VMPs, particular mention was made of the monitoring of the sales and use of VMP. Animal diseases could be monitored more efficiently. This would enable more rapid alerts in relation to outbreaks. Data could be collected for zoo-technical purposes (genetics of farm animals). Interoperability within the framework of "One Health" was brought up. This could be used to help improve communication in the fight against AMR.

Another important field in which digital solutions show significant potential is in animal identification and registration. As regards mandatory physical checks of animal ID, it was proposed that the focus could be on keepers, who, according to national databases, do not comply with identification requirements. This would improve controls and the efficacy of animal identification. Member States also highlighted the issue of identification of horses and the easy exchange of information between MS in this regard.

The analysis of the open-end question on MS experiences or of associated projects revealed that several Member States are transitioning towards digital operations in the area of food safety, animal welfare, animal health, VMP use, trade, certification etc. Responses highlighted a number of projects and systems, including JVIS, ClassyFarm and other already operational systems, ranging from classic databases to machine learning (AI) systems. Some long-term strategies are in place for the digital transformation of the services. Here special attention is being given to data interoperability standards.

3. The way forward

The Slovenian Presidency has provided an initial insight into the state of play in the area of digital solutions in veterinary and food chain controls and into the possible further development of advanced digital tools in this field.

In general, delegations are very interested in pursuing this topic further. Moreover, competent authorities are proactive in their digital transition. However, their efforts to build and better use the digital tools in their work are being pursued in isolation. Such practice is inevitably creating various systems of data management which might create problems in terms of interoperability.

The future of data connectivity in the field of food chain and veterinary controls could take the shape as outlined in the project, presented by JRC. Data would be imported from several different sources, including the Member States' competent authorities. Advanced analytics would be performed based on solid IT infrastructure and complex algorithms. This would provide information to users, allowing information-based risk analysis and enabling the optimisation of official controls.

For such system to function properly, it is crucial that there are harmonised standards of data quality.

In their responses to the questionnaire, as well as in discussion, the majority of delegations (21 of 27) supported the idea of harmonisation in the data collection, storage and analysis. Most delegations consider that harmonisation should not be legally binding. Even so, the replies indicate that there is a clear need for further guidance in this area.

In order to provide the competent authorities of Member States with such guidance, it would be useful to ensure a better understanding of the differences in data management across the Member States and indeed, of the range of IT systems used.

The delegations agreed that owing to the extent and complexity of the veterinary and food chain control systems, a step-by step approach will be necessary.

4. Recommendations

At the informal videoconference of the WP CVO members on 28 October 2021, delegations endorsed the Presidency's suggestion to encourage the Commission services to continue and step up its work in relation to the research and development of digital tools used in veterinary and food chain controls.

Based on the exchange of views and responses to the questionnaire, WP CVO considers that as a priority, further analysis of the variability of data management across the EU would be beneficial, as well as thorough insight into the organisation of different IT systems in use. The ongoing project run by JRC could help to further explore the situation and identify optimal further steps.

The WP CVO sees this as a prerequisite for the development of harmonised guidelines on standardised data management in Member States. This will be of utmost importance for the future connectivity of data from different sources across the Member States.

The WP CVO would welcome regular updates from the Commission services on developments in this field.

The WP CVO notes the importance of continuing exchanging examples of good practice between Member States with regard to digitalisation in veterinary and food chain official controls.

5. **Conclusions**

The Slovenian Presidency has used the focal activity of the WP CVO to provide the first insight into the state of play in the area of digital solutions in veterinary and food chain controls. In so doing it has endeavoured to explore the potential for the further development of advanced digital tools in this field.

Delegations held a broad discussion and an exchange of views on the issue. The Presidency elicited information by means of a comprehensive questionnaire.

The answers to that questionnaire show that there are considerable differences between the Member States in terms of the digitalisation of their administrative operations.

Most Member States are proactive in their digital transition. In addition, the delegations expressed a definite interest in continuing the work on digitalisation in veterinary services and food chain controls. The aim of these efforts is to further develop data connectivity and to enhance the use of data from several sources across the Member States to improve risk analysis and optimise official controls.

For such systems to operate properly, a degree of standardisation may be required.

WP CVO supports the Member States and the Commission in their work on promoting digitalisation in food chain and veterinary controls. As a specific priority, WP CVO identified the need to further analyse data management variability and the organisation of IT systems in use in the relevant fields.

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