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European Commission

SCIENCE FOR POLICY BRIEF

JRC Data Insights

A Role Play on the Use of Wearable Data in the European Health Data Space

HIGHLIGHTS

This brief describes a role play on the use of wearable data in the European Health Data Space. Designed by the Data Space Support Centre[1] with support from the Data Sharing Innovation Lab of the Joint Research Centre, the play explored how such data can be made available for secondary use.

A role play is a useful tool to identify key stakeholders, potential barriers, and critical aspects needed to implement future scenarios related to new policies, technologies or legal frameworks.

Key takeaways: role plays are well suited to simulate the setup of a data space, especially in the early stages of conceptualisation, because they allow a better understanding of which stakeholders may have a key role in the process and highlight challenges and opportunities that different cultures could pose when it comes to sharing sensitive data.

WHY A ROLE PLAY?

A role-play is an exercise, sometimes used as a game, in which players assume different roles in fictional settings. Through discussion, the players act following a script they receive at the beginning of the exercise. The script, in the case described in this document, provides information used by the player to act according to a given role; the player has enough freedom to take decisions during the play, even differently from what in the initial script.

Role plays are often associated with classrooms and eager students—think model United Nations summits. But they also serve other purposes than teaching. They have been used to plan and test crisis management scenarios—the EU-funded DRIVER+ programme on crisis management is one example of this. Role plays, however, are less often used by policymakers to explore the impact of new policies.

Role plays are a useful tool to facilitate the narrative of “show, don’t tell” when helping policymakers to gauge stakeholders’ perspectives. They can be used *ex-ante*, giving room to explore and test policy scenarios. They can also be

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[1] The Data Spaces Support Centre receives funding from the European Union Digital Europe Programme under grant agreement n° 101083412. Website https://dssc.eu

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used *ex-post* to study why policies are not producing expected results.

By mirroring the situation around, for example, an emerging technology or concept, the strategies developed by the actors and their outcomes could be of interest also for real-world stakeholders. Players, by assuming the roles of other actors, distance themselves from personal beliefs and interests to develop a reciprocal understanding of the interests and resources of their co-players. Different actors bring different resources to the table, such as financial, technical, human, or knowledge-based ones.

Temporarily freed from everyday limitations, players can be open and creative, often entering into meaningful discussions and coming up with innovative solutions. Rather than trying to become 'almost real life', the theatrical setting of role plays allows for surpassing reality to play out future scenarios.

This does not exclude the possibility to include the real stakeholders, at least for some roles. Their real perspectives could ensure a more authentic debate. What remains important, though, are the boundaries of the 'play' to ensure that stakeholders give real responses, and in this sense, it can be useful to have the real stakeholders take on the roles of others. It frees the stakeholder from needing to give politically expedient answers, and may also reveal how they perceive other stakeholders. The freedom that the game confers is all important.

THE ROLE PLAY ON WEARABLE DATA

In this role play, the scenario that was designed was set to be within the broader context of the European Health Data Space (EHDS)[2] with the goal of better understanding how **data from wearable devices (e.g., smartwatches)** could be made available for secondary use related to the public interest. To help focus the discussion, the wearable data considered in the scenario came only from devices that people would likely have purchased on their own to track exercise or sleep, among others. It did not include medical devices that would be prescribed, such as smart glucose meters.

As most data from such devices is currently inaccessible for secondary use, the use case explored whether the EHDS, and the new regulatory frameworks underpinning it such as the Data Act[3], could facilitate broader access and reuse of data. To make the scenario concrete, it was built around planning for medical infrastructure or medicine—not for medical research.

Traditionally, wearable manufacturers have been gatekeepers to the collected data, perhaps with access given via APIs. **When the Data Act becomes applicable[3], would access to such data be easier to attain and could they be shared in the EHDS**?

COMMON EUROPEAN DATA SPACES

Context

Common European Data Spaces are data sharing ecosystems providing secure and trusted data transfers and processing functionalities. Organisations can share data within specific sectors, like healthcare, finance, or employment, while ensuring privacy, security, and trust. By breaking down data silos and promoting fair access, data spaces are driving innovation, better decision-making, and new digital services across Europe.

The Data Space Support Centre (DSSC)

The DSSC supports Common European Data Spaces that collectively create a **sovereign, interoperable, and trustworthy data sharing environment**. It should enable data reuse within and across sectors, respecting EU principles while supporting the European economy and society. Funded by the European Commission as part of the Digital Europe Program, the DSSC is aimed at the public sector and companies that want to create sovereign data spaces.

As a part of its mandate to support data spaces, it designs and runs role plays to gather information and test scenarios around business and governance elements of a data space. Members of the DSSC were the designers and facilitators of the role play described in this policy brief.

The European Health Data Space (EHDS)

The EHDS is an EU initiative that aims to provide secure and privacy-compliant sharing of health data for better healthcare, research, and innovation. It will become applicable in a phased way, starting from March 26th 2029. It aims to give individuals more control over their health information while allowing professionals, researchers, and policymakers to access high-quality data to improve treatments, public health, and medical advancements across Europe.

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[2] The EHDS Regulation, entered into force on March 26th 2025, aims to establish a common framework for the use and exchange of electronic health data across the EU: https://health.ec.europa.eu/ehealth-digital-health-and-care/european-health-data-space-regulation-ehds_en

[3] Data Act: https://digital-strategy.ec.europa.eu/en/policies/data-act, applicable from September 12th, 2025

The Case of Wearables in the EHDS

It mixes public-sector and private-sector interests, relying on citizens giving permissions to use their data. Thus, choosing to focus on consumer-level wearables opens questions about the implementation of a data spaces strategy:

- Who would be responsible for collecting permission and how cumbersome would it be?
- How likely would people give permission and whom do they trust to ask the consent?
- What is the trusted intermediary that could ensure data is anonymised and protected?

STRUCTURE OF THE ROLE PLAY

The role play was held at the JRC site in Ispra, Italy, on September 27th 2024.

Objectives

The purpose of the role play was two-fold:

1. to ensure all actors had a common understanding of the scenario and of who needs to come together; and
2. to understand what roles stakeholders would need to play to make the scenario a success, including their incentives to participate.

Participants were meant to learn about balancing stakeholder interests and to see that (likely) no perfect compromise exist making all stakeholders come away happy. They were also meant to understand from where the impetus for the use case should arise—the use case may provide a lot of value, but if no one wants to drive it (and perhaps take risks), it will likely not develop.

In Fig. 1, a photo of the role play is visible, showing ongoing discussion among the actors.

Figure 1: actors during the role play; the moderator is standing on the right.

Source: JRC

Main Problem: Access and Reuse of Health Data

Basic health data, such as heart rate or sleeping patterns, is obviously needed for the scenario. Other data available from the wearable device itself or its owner would also be required. In Table 1, we list the data types under consideration in the role play.

Table 1: type of data considered in the role play.

Data type	Description
Location	How granular location data would need to be was not specified beforehand.
Gender & Age	Self-reported and not collected by the device itself.
Device details	Manufacturer, device version, and software version so that researchers can compensate for different methodologies and levels of accuracy.
Frequency of data collection	Do people wear their wearables all the time or only at specific moments? When are these moments?

Source: JRC

Stakeholders and Actors

The role play had eight roles, which actors impersonated, that were directly involved in the debate. We created two "synthetic" Member States loosely resembling Italy and The Netherlands — Ataly and The Underlands. The first state has a top-down and centralised health ecosystem, while the second has a decentralised system with private actors facilitating data exchange and providing health insurance. Given that health is a Member State competence, some actors were specific to one of two countries.

Figure 2: interaction with the audience during the play.

Source: JRC

Table 2: description of actors in the role play.

Type	Description
Ministries of Health	Both Ataly and the Underlands had similar briefs—facilitate data exchanges to increase the efficiency of their respective health systems. The Ministry from the Underlands was also briefed about the interests of their stakeholders.
Private insurers	Private insurers from the Underlands wanted to offer discounts on health insurance if clients joined fitness programmes (and use wearables as evidence).
Data service providers	Two intermediaries looked to provide services to the data space to facilitate the anonymisation and exchange of data.
Health care operators	Hospitals and providers that would benefit from data on upcoming needs in the health system.
Consumers	An association spoke to the wide interests of the population. Some are loathe to give extra data while others were altruistic and heavy users of wearables.
Wearable manufacturers	The manufacturers knew that the EHDS wanted to use the data they hold. They had an open mind about what to get from the scenario.

Source: JRC

Moderation of the Play

The role play was a full-day event, with the scenario itself that played out over 4-5 hours. Four people from the DSSC designed and supported the play:

1. A **facilitator** who introduced the session and provided "support" to the actors who were playing stakeholders, driving the session and ensuring everyone remained within the boundaries of the event.
2. A **moderator** who used a structured process to bring the actors to an agreement and, when necessary, introduced "interventions" (such as an offer of external funding) to drive the discussion.
3. Two **experts** to provide added support and answer technical questions of the actors.

After a brief introduction, the event started by getting volunteers from the audience. Each received a briefing note describing the scenario and their interests. While it would have been possible to get volunteers in advance, a part of the engagement strategy was to create the energy in the room, setting the scene—and bringing people to the stage was a part of that process.

What was and was not discussed were equally important to ensure that discussions did not devolve into off-topic points of interests. Issues that were deemed off-topic were all collected in a 'black box' (Fig. 3) for review after the event.

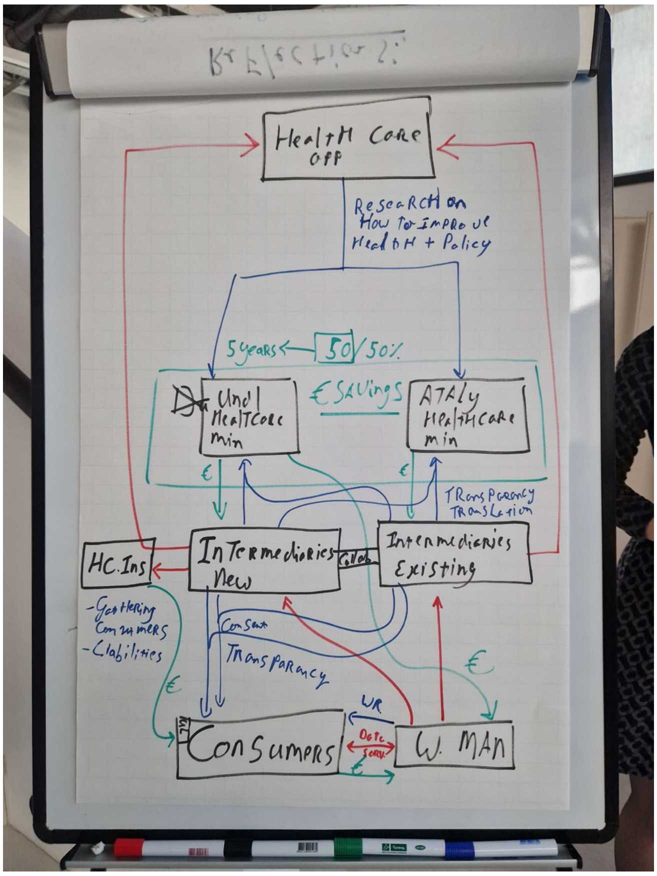
Figure 3: off-topic issues emerged during the discussion are collected in a black box for review after the play.

Source: JRC

Results

By the end of the role play, participants came to understand the complex interplay of interests to make wearable data available for secondary use via the EHDS. While public and private actors were cordial, a clear divide between those who were interested in the public good versus those that wanted to focus on their specific/private interest was revealed. Some alliances formed, and most actors held the private sector (particularly insurers) with some suspicion. An example of the interactions considered in the play is shown in Fig. 4.

Figure 4: example of potential interactions among the actors in the fictional case under consideration.



Source: JRC

LESSONS LEARNED

Who Takes the Initial Risk?

Despite having only a fictitious financial stake in the role play, the financial needs and incentives of all actors came out clearly. In fact, it took an "intervention" of external funding to move discussions forward.

Even though healthcare providers, like hospitals, were supposed to see savings from the data that they would receive, their expectation was that the Ministries should assume the financial risk. Given that hospitals were being asked to buy into a service offering without having seen it demonstrate benefits, this outcome is quite logical.

Interestingly, actors from the Ministries of Health were also not forthcoming, and there were certainly discussions around why national authorities would want to provide resources to what was viewed as a European initiative.

In future iterations, questions over various financing scenarios that clarify who would be asked to take what financial (and reputational) risks to build out a use case in this area would be useful to explore.

Orchestration of the Scenario

In the scenario, all of the actors were essentially dropped into a room to engage in a negotiation; however, it was never made clear to participants who was driving the discussions. The idea was to test whether any actor would take on this role to orchestrate and operationalise the use case, but by the end, no one took on that role.

Future iterations of the role play could introduce different orchestrators and see how far negotiations would proceed given their inherent needs and biases.

Culture

The role play included both public and private sector actors. Sometimes, these actors would have overlapping interests, but would communicate them differently. For example, both the Ministry of one Member State and a private health insurer in another wanted to use wearables to promote healthier living. For one, the goal was more efficient healthcare delivery, while for the other, it was reducing health-related expenditures. Despite the different wording, both goals are—at their heart—about reducing costs.

With this set of actors, there was near universal rejection of the private health insurer's proposals, though it was never explicitly stated why they were unacceptable. Arguably, the private health insurer was best placed between the data providers and citizens that need to give permissions. Insurers can interact with citizens directly, and have the financial incentive to promote healthier lifestyles. They seemed to have the clearest business case of all stakeholders in the role play.

This raises questions about how a data space that is supposed to be used by stakeholders in all Member States can converge on a clear and inclusive set of principles. A future iteration of the role play could look at various changes to see if principles could be set that would facilitate data exchange in both the public and private sector in a way that could satisfy all stakeholders.

Public-Private Partnerships

Related to the previous point, the use case was driven by public value, but it seemed unclear whether representatives of health systems knew what role to give to private sector. Participants agreed that it was important to have wearable manufacturers on board, but it was unclear what that actually meant.

Financial compensation was discussed at different points, but then the Data Act will open data irrespective of what some manufacturers would want. The fact that this scenario runs across Member States made the discussions all the more complicated (and, in our case, only involved two).

Further iterations of the role play, perhaps focussed on user experience (UX) issues, may dive into the Data Act and the

General Data Protection Regulation (GDPR)[4] to understand which actors would be necessary to make the use case work from a UX perspective.

The Importance of Stakeholders' Networks

One of the assumptions of the DSSC is that the governance authority of a data space should represent the interests of all its core members. This raises the question of what happens with new stakeholders who want to join a data space and influence its development.

In this role play, this question was built into the design of the role play with two intermediaries—one which had already been facilitating data exchanges and a new player. Over the course of the role play, the two actors decided to form a business alliance to deliver data space services together.

The Right Stakeholders?

More than one person in the audience wondered about data protection authorities and whether they should have been at the table. Others also pointed out that consumers, while a valid voice, were not necessarily a stakeholder that would be a part of the governance authority. In both cases, it raises the question of whether key stakeholders should be members of the governance authority or should they rather be a part of the regular consultations that would take place between the governance authority and the wider community.

PARTICIPANTS' FEEDBACK

After the workshop, we asked the participants to provide feedback on the role play through an online survey. In the following, we present the results of the survey and briefly discuss the answers we received.

Critical Stakeholders in the Role Play

Figure 5: participants' feedback on the most critical stakeholders in the play.

Source: JRC

During the play, it appeared evident that manufacturers play a central role as data holders, and that their cooperation is essential for data sharing to be effective as intended (see Fig. 5). Data intermediaries were also important as trusted actors in charge of handling consent on behalf of consumers. What was unexpected at the beginning, and appeared instead evident during the play, is the secondary role of consumers' / citizens' associations, as discussed earlier.

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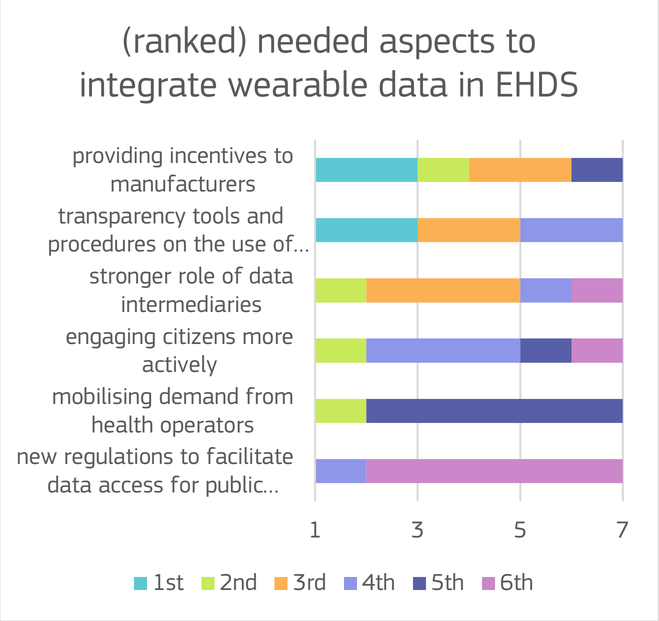
[4] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

How to Ensure Access to Data

Figure 6: what is needed to integrate wearable data in the EHDS.



Source: JRC

Following the previous discussion about the central role of the manufacturers, incentives for them are considered necessary to streamline the access to the data they held, despite the Data Act becoming applicable in the near future, as Fig. 6 shows. The second position is for transparency, in the sense of tools and procedures that can be used to understand how data are used, and by whom, at any stage. At the very last position, we see the need for additional regulation, in this case meant to further facilitate access to health data for public interest.

CONCLUSIONS

This brief described a role play designed to explore the idea of using wearable data in the EHDS. The methodology proved to be effective to explore complex scenarios involving several stakeholders bringing contrasting interests at the table. It can provide insights about potential future scenarios related to new policies, technologies or legal frameworks.

When it comes to data spaces, a role play could be a valuable tool in the early stages of conceptualization. In the specific case under consideration, it well highlighted the challenges and the opportunities that different cultures could pose when it comes to sharing sensitive data.

REFERENCES

[1] Role-Play simulations https://iiasa.ac.at/models-tools-data/role-play-simulations

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DISCLAIMER OR OTHER FINAL DETAILS

The role play described in this document was a simulated exercise and is not linked with the EHDS.

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