PLAYOUT

Setting the Standard for Validated OOH Data

OUTSMART

Adwanted UK_

Contents

1. Executive Summary

The Role and Value of Playout in the OOH Sector

The Out of Home (OOH) advertising industry recognises the opportunity and need for effective transparency, accountability, and data integrity in a rapidly digitising media landscape. **Playout** has been created to meet this challenge: overseen by **Outsmart** and developed by **Adwanted UK**, it serves as a centralised data warehouse for recording, consolidating and sharing playout data across the UK OOH sector. It provides a secure, standardised, and scalable platform to support this process.

This report details the strategic value of Playout, beginning with its rigorous data validation framework. Every playout record is subject to strict formatting, logic, and cross-referencing checks against the **SPACE** inventory, and the wider market, ensuring that only accurate and compliant data is accepted.

Playout's success is rooted in industry collaboration. Developed through an industry-wide governance model, Playout enforces a single data standard that underpins trust and comparability. This standardisation strengthens compliance and integrity, improves comparability, and eases automation, supported by flexible access options.

Leading media owners are choosing a unified, persistent, and consistent single 'source of truth' over fragmented integrations and third-party approaches.

Beyond campaign reporting, Playout has the potential to support a range of high-value, strategic use cases; from **marketing mix modelling** and **ROI analysis** to **ESG reporting**. Survey data from March 2025 shows that **100%** of buyers and media owners reported increased transparency and efficiency, with **92%** noting reduced manual effort and **80%** citing improved decision-making.

In conclusion, **Playout now operates as critical infrastructure** for the OOH sector, fundamentally transforming the processes of data validation, access, and trust. It establishes a new benchmark for playout reporting standards, enhances the UK's OOH sector's reputation for data-driven accountability, and has clear potential for global adoption. Playout ensures that OOH remains a measurable, trusted, reliable, and transparent advertising medium as the market continues to evolve.

2. Introduction: The Evolution of Accountability in OOH

The OOH advertising sector is undergoing a profound transformation, driven by rapid digitisation and an escalating demand for transparency, accountability, and data integrity. As digital screens proliferate and campaign delivery becomes more dynamic, advertisers and agencies are demanding more granular, real-time, and validated data to support their investment decisions.

Historically, the OOH industry relied on fragmented, peer-to-peer data exchanges between media owners and buyers. This approach was not only inefficient but also introduced inconsistencies in data granularity, and format. Buyers were often left reconciling disparate reports, complicating optimisation efforts. To be clear, while the play data provided pre-Playout was entirely accurate and representative, in terms of format and accessibility it was not universal or standardised.

In this evolving landscape, the need for a unified, standardised, and independently verified reporting framework has become critical. Playout emerged as the industry's response: a collaborative initiative designed to centralise playout data, enforce rigorous validation standards, and provide a single source of truth for all stakeholders. By aligning the interests of media owners, buyers, and clients, Playout marks a new era of trust and collaboration in OOH.

3. The Benefits of Data Validation and Quality

In today's OOH environment, data is not just a byproduct of campaign delivery; it is a strategic asset underpinning accountability, optimisation, and trust. As the industry has evolved from static posters to dynamic digital screens, the volume and complexity of playout data have grown exponentially. Ensuring the accuracy, consistency, and reliability of this data is essential.

Rigorous Validation at the Core

Playout enforces a robust validation framework that operates at the record level. Each playout record, representing a single ad displayed on a specific frame, is checked against a comprehensive set of rules. These include mandatory field completion, correct formatting, logical timestamp sequencing, and cross-referencing with the SPACE inventory to confirm that the frame, Buyer, Agency, and Brand IDs are valid and current (see **Appendix A: Playout Frame File Specifications**, and **Appendix B: Playout Field Validation**.)

This meticulous approach ensures that only clean, compliant data enters the system. Any record failing validation is rejected with a detailed error report sent to the media owner, enabling rapid correction and resubmission (see **Appendix C: Playout Error Codes and Descriptions**.)

This process not only elevates data quality but also fosters a culture of continuous improvement and accountability across the sector.

Error Prevention and Overlap Protection

Playout incorporates intelligent safeguards to maintain data accuracy:

- Detects and rejects duplicate reported playouts on the same frame
- Validates across the entire market to prevent multiple ads being reported on the same screen at the same time, even from different buyers or agencies

This level of validation is only possible because Playout aggregates data from across the OOH ecosystem, ensuring a clean, trustworthy dataset and preventing inflated impression counts.

A Foundation for Trust and Growth

The value of rigorous validation goes beyond operational efficiency: it builds trust among media owners, buyers, and clients; and strengthens OOH's credibility across the wider advertising ecosystem. By ensuring that every playout record is accurate, validated, and independently verified, Playout positions OOH as a medium that is not only impactful but also accountable and data-driven.

Independent Verification by PwC (now MediaSense)

To reinforce confidence in the integrity of the data, Playout underwent independent testing by PwC's Marketing and Media Owner team (now part of MediaSense; please see **The Importance of Independent Verification** below). Their review included:

- **Real-time observation** of playouts
- **Reconciliation** with media owner systems
- **Simulated failure scenarios** (e.g., switching off screens to confirm no false records were generated).

The findings were conclusive: Playout accurately reflects real-world ad delivery and reliably rejects non-compliant data.

The Importance of Independent Verification

Chris Ang, Director, MediaSense (formerly part of PwC)

Trusting in the data

Digital OOH (DOOH) is stronger than ever – but to maintain the fast growth the industry has seen over the past decade, new challenges must be addressed as they arise. Brands and agencies want consistent DOOH data, with more granularity, and they need to know they can trust the data they're receiving. The industry needs a single source of truth.

The OOH industry has a unique advantage over online digital media counterparts in that media owners own the network and all the data. As a result, there are no external commercial barriers preventing media owners from sharing their data with buyers, providing a transparent dataset that is consistent with the OOH platform source.

Outsmart's Playout tool is designed to be a centralised, industry-wide tool providing buyers with access to high-quality, comparable DOOH playout data from across different media owners' inventories. By taking data directly from the source and ensuring that it meets strict industry standards, Outsmart can provide trustworthy data of the quality and quantity that buyers have been asking for.

Outsmart understands that trust in their Playout tool requires more than just their own assertions; that's where independent tests play a crucial role. In 2024, Outsmart approached the Media Owner Assurance specialists at PwC (now part of MediaSense) to perform an unbiased, independent verification of Playout's accuracy and process controls. This provided an added layer of trust and transparency to the owned source data – effectively ensuring that the OOH industry is not "marking their own homework".

Importance of independent verification

Seeking out independent verification from PwC / MediaSense demonstrates Outsmart's commitment to proactive transparency and readiness for stakeholder scrutiny.

In particular, independent verification provides the following benefits to Outsmart and Playout's stakeholders:

- *Readiness for scrutiny and proactive transparency*

Even ahead of launch, Outsmart was pre-empting stakeholder questions to reinforce their commitment to transparency and build trust in the OOH industry. Standing up to scrutiny is more than an afterthought, it was built into the design.

Bringing in an independent verification partner at an early stage shows that Outsmart are confident in their ability to deliver what they have promised.

- *Accountability to standards*

Playout set the standard for DOOH reporting across media owners which underpins consistent measurement and reporting. These standards form the basis for independent verification, ensuring that Playout continues to meet the standards it has set.

- *Confidence to act on insights*

With the knowledge that Playout has independent verification in place, users can be confident that Playout's reporting data is reliable and robust.

- *Commitment to ongoing audits and improvement*

Outsmart have committed to ongoing annual independent audits of Playout to maintain trust in the product and test new features.

If and where issues are identified during testing, they can be addressed early, causing minimal impact to Playout users.

Together, these benefits ensure that Playout not only provides accurate reporting but also sets a precedent for accountability across the OOH industry.

The PwC / MediaSense review

As an independent verification partner, PwC / MediaSense designed procedures to address Playout's accuracy, integrity, and security across three main areas of risk:

Proof of play

The core premise of any media owner's ad offering is the promise that the buyer's content will actually play out and be visible to the intended audience; that premise is no different for DOOH. If buyers cannot trust that their ad content is being displayed and reported accurately, then the DOOH offering falls apart. Where traditional OOH verification was relatively simple, DOOH has an added layer of complexity with a vast number of frames across media owners all playing on continuous loops.

With the SPACE frame inventory covering different media owners, frame formats, environments and locations across the UK, the verification team tested that the frames were consistently visible to passers-by, in operation and that the content being played out reconciled to both media owner internal reporting logs and Playout's platform logs.

In essence, the team tested that observed playouts reconciled to each of the media owner's internal systems and that this data had accurately been passed through and captured in Playout.

Data validation

As an industry-wide reporting tool, Playout unifies media owners with diverse frame inventories and reporting practices. Establishing a consistent, user-friendly playout data format required significant coordination to set ambitious – but still practical – standards; PwC / MediaSense therefore acted as an independent verification partner to ensure that these standards were being upheld with appropriate rigour.

Our tests included reviewing Playout's processes for rejecting and relaying non-compliant data, error flagging and resolution, and internal playout data logic.

Platform security

Another key risk addressed through independent verification was that of platform security and the segregation of media owner and agency data. As Playout enables collaboration between buy-side and sell-side stakeholders, it is critical that this transparency does not come at the expense of competitive integrity.

Robust access controls ensures that media owners are only able to see data related to their own inventory, while agencies and advertisers are restricted to data related solely to their own campaigns. This segregation within Playout is essential to maintaining trust across the ecosystem.

To validate these safeguards, we utilised test media owner logins to verify that no cross-party data leakage occurred. In parallel, test agency accounts were used to verify that only relevant campaign data were visible, further demonstrating the platform's ability to uphold strict data governance standards.

About MediaSense

MediaSense are a leading global media advisory firm and the fastest growing in the industry over the last 10 years.

Behind our success is our investment in technology, products and people. Our specialist audit, advisory and analytics teams combine specialist expertise with sector-leading tools and research, to credibly and confidently address our clients' most complex challenges.

The review of Outsmart's Playout tool was conducted by PwC's Marketing & Media Assurance team in H1 2024; following the completion of this review, the team was acquired by MediaSense and continues to work on media assurance work as part of MediaSense.

Key Takeaways

Clean inputs	Clean warehouse	Clean governance
Strict record-level checks + SPACE Cross-reference.	Duplicate/overlap prevention + actionable error reports.	Independent verification and ongoing audits.

Industry Collaboration & Standardised Reporting

4. Industry Collaboration and Standardised Reporting

The OOH sector has long recognised the need for a unified reporting approach. As digital formats expand and campaign complexity grows, so does the demand for consistent, comparable, and trustworthy data. Playout addresses this challenge head on through the **Playout Data Standard** and a collaborative governance model that brings together all corners of the industry.

The Role of the Playout Data Standard

At the heart of Playout is a detailed specification that defines the structure, validation, and sharing requirements for playout data. This ensures every record follows a consistent format, covering frame IDs, timestamps, buyer and brand identifiers, and creative metadata. By enforcing uniformity, Playout eliminates the inconsistencies that plagued peer-to-peer reporting and simplifies analysis across multiple vendors.

Collaborative Governance

Playout's development is guided by two key bodies:

Playout Delivery Group: comprising the four underwriting media owners (Bauer Media Outdoor, Global, JCDecaux, Ocean Outdoor), meeting fortnightly to provide technical input and ensure operational alignment.

Playout Steering Committee: a broader forum including buyers, agencies, and third-party providers, meeting monthly to address industry-wide challenges and ensure best practice.

This dual structure ensures Playout remains technically robust, commercially relevant, and co-created by those who rely on it. Control of the standard remains with those who are the long term custodians for the medium rather than outsourcing to potentially transient solutions.

Simplifying Analysis and Improving Comparability

One of the most significant benefits of standardised reporting is the ability to simplify and accelerate data analysis. Buyers no longer need to reconcile multiple formats or interpret inconsistent field definitions. Instead, they receive data that is uniform in structure and meaning, regardless of the media owner, and includes their own campaign references. This consistency enables faster, more accurate campaign evaluation, supports automation, and reduces the risk of misinterpretation.

For agencies managing multi-vendor campaigns, the ability to compare performance across different networks using a common data language is transformative. It enhances transparency, streamlines optimisation, and ultimately improves outcomes for advertisers.

The Impact of Shared Governance on Adoption and Innovation

Playout's collaborative governance model has been central to its success (*see Fig. 1: Playout Delivery Group and Steering Group Members)*. By involving all stakeholders in the platform's development, it has built trust and ensured that the system meets real-world operational needs. This inclusive approach has also driven innovation: new features, such as support for static formats and operational enhancements, are introduced based on collective input, ensuring Playout evolves with industry requirements.

Shared governance also aligns incentives across the ecosystem. media owners benefit from contributing to a standardised platform, buyers gain ease of access to validated data, and third-party partners can develop tools and services on a stable, well-documented foundation.

Fig. 1: Playout Delivery Group and Steering Group Members

Key Takeaways

Shared governance	Consistency	Faster optimisation
Strict record-level checks + SPACE cross-reference.	Duplicate/overlap prevention + actionable error reports.	Independent verification and ongoing audits.

5. A Unified Commitment from Media Owners

By pooling resources, investment, and a shared vision, Playout's underwriting media owners: **Bauer Media Outdoor**; **Global**; **JCDecaux**; and **Ocean Outdoor** have created a platform that serves the entire ecosystem.

This commitment goes beyond funding: media owners have integrated their internal systems with Playout, adapted data pipelines, and aligned operational processes with the Playout Data Standard.

As of mid-2025:

- 99% of digital frames from participating media owners actively contribute data
- Additional partners such as **Alight Media, i-Media,** and **Limited Space** have joined, with more in the pipeline

Strategic Leadership & Future-Proof Design

Playout is overseen by **Outsmart** and developed by **Adwanted UK**, ensuring technical robustness and strategic alignment. Built on scalable AWS infrastructure, Playout processes up to a billion playout records weekly, with resilience, security, and performance at its core (see **Appendix D: The Playout Process Overview**).

The platform supports expansion into static formats, programmatic DOOH, and integration with audience measurement tools like Route, ensuring long-term value as the media landscape evolves.

Shifting Perceptions and Raising Standards

This collective investment is reshaping how advertisers, agencies, and analysts view Out-of-Home. By committing to shared infrastructure and transparent governance, the industry demonstrates that **collaboration, not competition**, is the foundation for progress. This unified approach is critical to delivering long-term value, building trust, and ensuring OOH remains a credible, data-driven medium in an increasingly fragmented media landscape.

Key Takeaways

99% of digital frames	Built for scale	Collaboration, not competition
From participating Media Owners reported in Playout.	AWS architecture handles billions of records and supports growth.	Secures trust and long-term value for OOH.

6. Access Models: S3 Exports and Redshift Queries

Playout provides two complementary access models so teams can choose the approach that best fits their workflow and technical capability *(see Fig. 2: The Playout Security Model).*

Scheduled S3 Exports (Batch): Validated playout data is exported from Amazon Redshift to compressed CSV files in Amazon S3 on a user-specific schedule. Each export contains only new records since the previous run, making downstream ingestion straightforward and efficient.

Best for: Regular reporting cycles, those with data warehouses and BI tools that prefer file-based ingestion.

Direct Redshift Access (Live Query): For real-time insights and tighter system integration, users can connect to the Playout warehouse via JDBC/ODBC. This enables ad-hoc analysis, advanced querying, and integration with dashboards and custom applications.

Best for: Data teams with SQL expertise and infrastructure designed to handle large-scale extraction and interactive analysis.

Flexibility by design: Many organisations use both models; S3 for dependable, auditable batch feeds and Redshift for time-sensitive analysis and exploration.

Security and Row-Level Access Control

Data security and confidentiality are fundamental to Playout's architecture. Access is restricted so users only see data they are entitled to view:

Media Owners can access *only the data they have submitted*.

Buyers and agencies can access *only campaigns where they are explicitly identified* in playout records.

Controls include Redshift Row-Level Security (RLS) and IP allow-listing to limit access to authorised users and networks.

All transfers, via S3 or Redshift are encrypted and authenticated with credentials issued by the Playout Admin team. These safeguards maintain commercial confidentiality without compromising the transparency advertisers require.

The robustness of these controls formed part of the independent verification conducted by PwC's Media Owner Assurance team (now MediaSense).

Near Real-Time Availability and Buyer Empowerment

Media Owners can upload as frequently as every 15 minutes. Once validated, data becomes immediately available to authorised buyers and agencies. This rapid turnaround enables proactive monitoring of campaign delivery, early issue detection, and faster decision-making, driving a more agile and responsive OOH ecosystem.

Cost Dashboards and Operational Efficiency

Playout includes usage and cost dashboards to provide visibility over data access and any associated AWS charges. This transparency helps media owners and buyers optimise their data strategies, avoid unexpected costs, and ensure the benefits of access are not diluted by opaque billing.

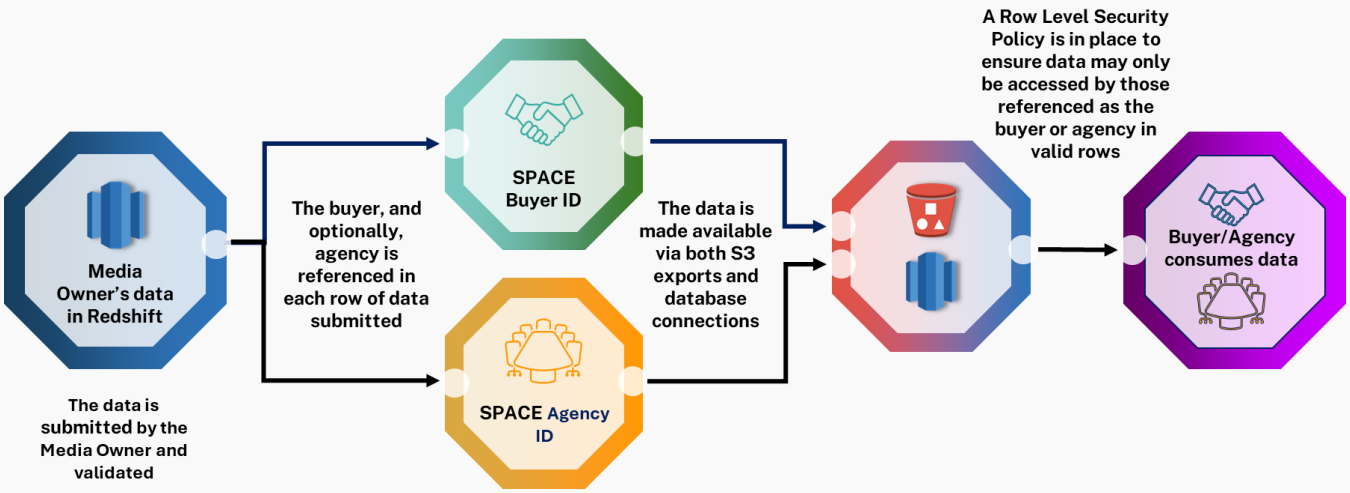


Fig. 2: The Playout Security Model

Key Takeaways

Two models	Near real-time insights	Row-level security
S3 batch exports + live Redshift queries.	Empower agile decision-making.	Buyers see only their campaigns.

7. The Advantages of First-Party Data, When Independently Verified

The OOH industry has a unique advantage over many channels: Media Owners control the delivery infrastructure which makes them best positioned to provide accurate, granular and timely Proof of Play (PoP) data. Outsmart's view is first-party data, validated through a trusted centralised platform like Playout, and independently verified by a third party such as PwC/MediaSense, should be best-practice for OOH and its partners.

Playout's validation engine rigorously applies record-level checks against the Playout Data Standard and the SPACE inventory. Independent testing by PwC/MediaSense confirmed that Playout faithfully reflects real-world playouts, rejects non-compliant data, and enforces strict access controls.

Playout supports third-party reporting when permitted. Data is available to all referenced users, and buyers can delegate access to trusted third parties. With appropriate permissions, partners can verify Playout records against their own systems, using a central, validated dataset from Playout as the reference.

Myth-busting

- *"It's just a tech pipe."* Playout is a **strategic assurance layer**: first-party source data + rigorous validation before acceptance, alongside independent testing.
- *"Duplicates and overlaps inflate counts."* Playout **blocks overlapping plays**, future-dated records, and invalid IDs not just within owners but **across the market**.
- *"Sellers and buyers see different data."* Buyers and agencies access the same validated dataset which media owners use for billing, optimisation, and compliance.
- *"Benefits are theoretical."* Survey results show **higher transparency, less manual effort,** and **better decision-making** from using Playout *(see Section 9)*.

Key Takeaways

Best-practice	Independent verification	Controlled access
First-party data with central validation.	Accuracy and Security assured.	Buyer-delegated third-party permissions.

8. Extended Use Cases

Playout's utility extends well beyond campaign reporting. Its standardised, high-quality data unlocks a range of strategic applications that support broader business and sustainability goals:

- **Marketing Mix Modelling (MMM)**

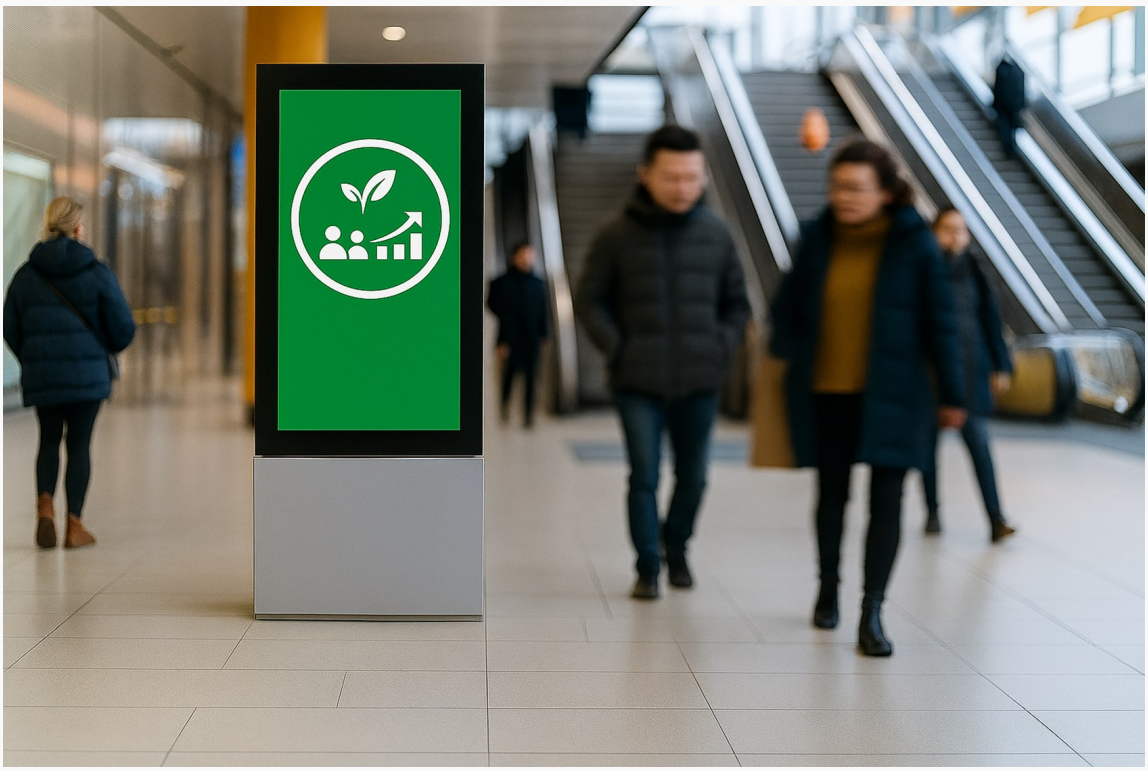
  Robust playout data is critical for accurately assessing Out of Home (OOH) performance within cross-channel media plans. By delivering consistent, granular inputs, Playout enables more precise econometric modelling, helping to address the historical underrepresentation of OOH in ROI analyses and ensuring its true contribution is recognised.

- **Environmental, Social, and Governance (ESG) Reporting**

  As sustainability becomes a core priority for brands, Playout provides the data foundation to calculate campaign-level carbon footprints. This empowers advertisers to quantify, monitor, and report their environmental impact with confidence and consistency.

- **Return on Investment (ROI) Analysis**

  With independently validated data on when and where ads are displayed, advertisers can more accurately correlate exposure with outcomes. This enhances the precision of ROI calculations and informs smarter, evidence-based media planning.



9. Survey Results: Confidence from Buyers and Sellers

In March 2025, active Playout users, including media owners, buyers, and third-party technology partners, were surveyed to assess operational impact.* The results confirm Playout's role in improving transparency, efficiency and decision-making across the OOH ecosystem.

Headline findings

- **100%** of buyers and sellers reported **increased transparency and efficiency**.
- **92%** noted a **reduction in manual effort**.
- **80%** cited **improved decision-making** due to better access to data.
- **45%** reported **lower cloud computing costs**.

These results indicate that Playout is delivering on its technical objectives and providing measurable benefits across the ecosystem *(see Fig. 3: Reported Improvements)*.

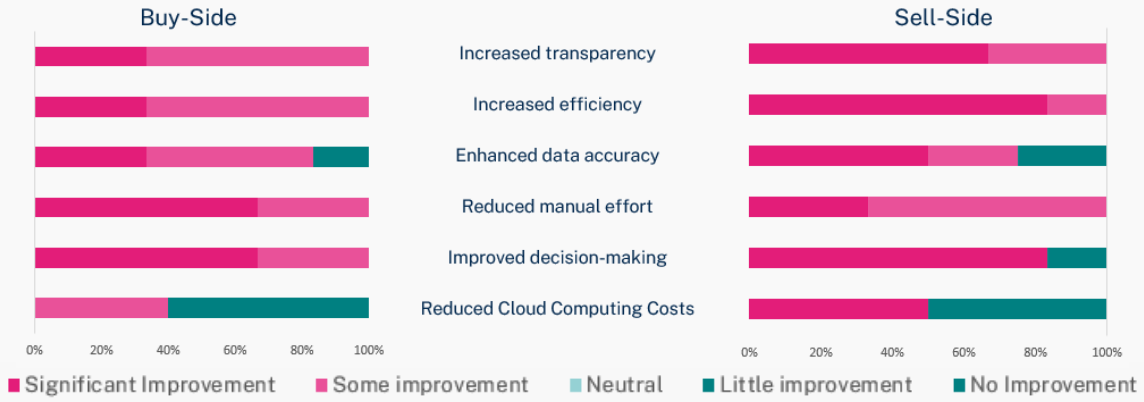


Fig. 3: Playout Impact Survey; Reported Improvements

Most valued features:

100% of respondents reported that Playout had features which were useful for their operations *(see Fig. 4: Most Useful Features)*.

- **86%** cited the **Standardised data formats** via the Playout Data Standard
- **79%** selected **Centralised reporting**
- **57%** referenced the **Record-level validation** that prevents overlaps and rejects non-compliant data .

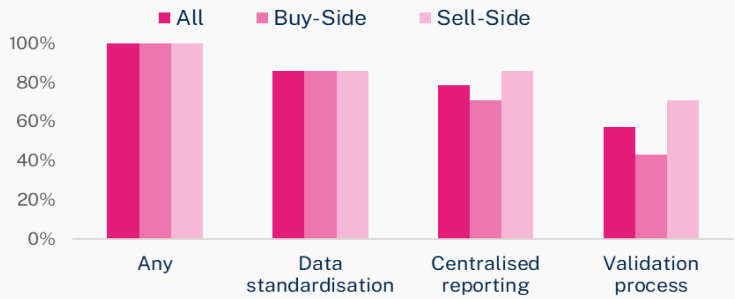


Fig 4: Playout Impact Survey; Most Useful Features

*Methodology: Online survey conducted March 2025 among registered Playout users (media owners, agencies /buyers and their approved tech partners). Email invitations; participation voluntary. Questionnaire covered operational impact and satisfaction (closed questions) plus optional open comments. Percentages show the share of respondents selecting each outcome. Results are descriptive snapshots of user experience and not weighted to represent the entire market.

10. A Model for Global OOH Playout Reporting

Playout's UK deployment demonstrates that a **centralised, independently assessed** validation layer can deliver the transparency, efficiency and trust modern advertisers require. This translates across markets and ensures data quality and a standardised source all parties can rely on.

Blueprint principles for other markets

- **Common standard:** Adopt a shared playout data specification anchored to a market-wide, uniquely coded inventory (SPACE-equivalent), so every record can be validated consistently.
- **Independent governance & assurance:** Establish cross-industry oversight with third-party verification to maintain confidence in process controls, proof-of-play and data segregation.
- **Rigorous validation & quality controls:** Enforce field-level checks (e.g., overlap prevention, time rules) and exception reporting to keep the warehouse clean and auditable.
- **Secure, scalable access models:** Offer batch exports (S3) and direct warehouse connections (Redshift/JDBC/ODBC) with row-level security; buyers see only their campaigns, media owners only their own inventory.

Key Takeaways

Extended Use Cases	Survey Results	Global Model
Unlocks MMM, ROI analysis, and ESG reporting.	100% report higher transparency and efficiency; 92% less manual effort.	Blueprint principles: common standard, independent assurance, secure access.

Conclusion

11. Conclusion: A Unified, Trusted Future for OOH

The OOH sector is at a pivotal moment. Advertisers demand transparency, accountability and data they can trust. Playout answers that need as the industry's shared infrastructure for validated, standardised playout data. A single source of truth that underpins confidence across the ecosystem.

Playout delivers six core benefits:

- **Data integrity:** Rigorous record-level checks ensure only accurate, compliant data enters the system.
- **Standardised and efficient:** A common data format and automated processes simplify analysis, improve comparability, reduce manual effort and enable smarter decisions.
- **Secure, flexible access:** Buyers and sellers access only what they are entitled to, potentially in near real time.
- **Shared governance:** Industry-led oversight guarantees long-term stability and alignment with real-world needs.
- **Independent assurance:** PwC/MediaSense testing confirms Playout accurately reflects delivery and rejects non-compliant data.

The implications are significant: Playout provides a future-proof standard that strengthens credibility, streamlines operations and supports advanced use cases such as ROI analysis, marketing mix modelling and ESG reporting. For the wider ecosystem, including regulators and sustainability stakeholders, it offers a transparent, auditable view of campaign delivery.

Playout is more than a UK initiative. It is a **blueprint for global OOH data assurance**, demonstrating that industry-wide collaboration, rigorous validation and independent oversight can address shared challenges.

PLAYOUT

Appendices

Appendix A: Playout Frame File specifications

A.1 Playout Digital Frame File Format

File specification

1. Files must be in CSV format.
2. For each Media Owner, their filenames must be unique. The file naming convention is up to each Media Owner to decide.
3. The files must be UTF-8 encoded.
4. There is no header record. The first record begins on the first line. No empty lines are permitted and there is no provision for 'comments' within the file.
5. Each record (including the final record in the file) must be terminated with a Unix-style line termination (LF 0x0A).
6. Each record must have a fixed number of fields, as defined later in this document. Optional fields can be left empty or else must adhere to the defined field format.
7. Each field of type "TEXT" may optionally be delimited by double-quotes (0x22) -- necessary if the value includes a comma. When delimited like this and a double-quote exists within the value of the text, the double-quote must be escaped with an additional double-quote. For example:

```
"some text ""in quotes"" more text"
```

8. Each field must not include space padding at the beginning or end.

Record definition

Each record (each line of the file) reflects all the data associated with a single playout on a single frame. All reporting is at the frame level (e.g. linked assets are not represented, and players which play to multiple screens are reported at frame level).

Mandatory fields are marked with an asterisk * in the following specification. Some fields *must* be populated under certain circumstances, as described in the *Description* column below. Such fields are marked with a ? below.

Record augmentation

Note that Playout will record the SPACE Media Owner ID against each ingested playout. It will be determined from the S3 folder into which the file is dropped.

The date/time of ingesting a record (inserttime), and an ID unique to each file processed (jobid) will be included in the data stored in the data warehouse.

https://github.com/Outsmart-OOH/PlayoutReportingStandard/blob/main/Playout/playout-digital-file-format.md

Playout Digital Frame File specification

Field name	Type	Format	Description
* **frameid**	INT4	SPACE Frame ID	The Frame ID held in SPACE.
See notes opposite relating to the time fields below			*It is mandatory to provide either **startdate/enddate**, **startdate/spotlength** or **enddate/spotlength**.* *If all three fields are provided, **enddate** will be ignored.* *When providing **startdate** or **enddate**, it is mandatory to provide the associated time zone (**utcoffset**) value.*
? **startdate**	TIMESTAMP	*yyyy-mm-ddThh:mm:ss.sss*	The UTC start time of the spot.
? **startutcoffset**	TZ_OFFSET	*±hh:mm* Z	Time zone offset for the spot start time (e.g. +01:00 for BST; Z or :00:00 can be used for GMT.)
? **enddate**	TIMESTAMP	*yyyy-mm-ddThh:mm:ss.sss*	The UTC end time of the spot.
? **endutcoffset**	TZ_OFFSET	*±hh:mm* Z	Time zone offset for the spot end time. (e.g. +01:00 for BST; Z or :00:00 can be used for GMT.)
? **spotlength**	INT8	Max value 9223372036854775807	Spot Length in milliseconds.
? **shareoftime**	DECIMAL(5,2)	Percentage to max 2 decimal places (no % sign).	Share of time. This must be provided for scrollers, but its presence is not policed by Playout. Media Owners must determine when this must be supplied.
* **orderid**	TEXT	Max length 256 characters.	Media Owner-defined order identifier.
? **lineid**	TEXT	Max length 36 characters.	The identifier for the order line that this playout belongs to. This is mandatory for OpenDirect trades but its presence is not policed by Playout. Media Owners must determine when this must be supplied.
* **spacebuyerid**	INT4	Max value 2147483647	SPACE-defined ID for the buyer (often a Specialist). This can be a SPACE Agency ID or Client ID. (Note that these IDs do not overlap in SPACE.)
spaceagencyid	INT4	Max value 2147483647	SPACE-defined ID for the agency. If the Agency is the same as the Buyer, this can field should still be populated to aid reporting.
* **spacebrandid**	INT4	Max value 2147483647	SPACE-defined Brand ID.
buyercampaignref	TEXT	Max length 64 characters	Buyer-defined campaign reference (could be an Order ID, for example).
* **creativeid**	TEXT	Max length 64 characters	Media Owner-defined creative identifier.
* **creativename**	TEXT	Max length 128 characters	Creative title, to assist with reporting. Usually a filename.
thirdpartycreativeref	TEXT	Max length 128 characters	Creative reference provided by a third-party such as the creative agency. This might be a URL or a GUID, for example.
creativetriggerevent	TEXT	Max length 64 characters	The creative trigger event, indicating what prompted the given creative to be used.
playerref	TEXT	Max length 36 characters	The MAC Address or other reference uniquely identifying the player.
* **mediaownerplayoutref**	TEXT	Max length 48 characters	Media Owner-defined reference representing this record. For the Media Owner, this should uniquely identify this record across all time. (Note that records supplied by other Media Owners may happen to use the same ID however.)

A.2 Playout Static Frame File specification

As per Digital Frames the file format used by Media Owners for Classic Frames should adhere to following specification:

1. Files must be in CSV format.
2. For each Media Owner, their filenames must be unique. The file naming convention is up to each Media Owner to decide.
3. The files must be UTF-8 encoded.
4. There is no header record. The first record begins on the first line. No empty lines are permitted and there is no provision for 'comments' within the file.
5. Each record (including the final record in the file) must be terminated with a Unix-style line termination (LF 0x0A).
6. Each record must have a fixed number of fields, as defined later in this document. Optional fields can be left empty or else must adhere to the defined field format.
7. Each field of type "TEXT" may optionally be delimited by double-quotes (0x22) -- necessary if the value includes a comma. When delimited like this and a double-quote exists within the value of the text, the double-quote must be escaped with an additional double-quote. For example:

   ```
   "some text ""in quotes"" more text"
   ```

8. Each field must not include space padding at the beginning or end.

Protocol

Media Owners will upload two records to Playout: one when the creative is posted (an ‘up’ record), and a further one when the creative is removed (a ‘down’ record), to provide ‘enddate’. Both records are identified by the same ‘mediaownerplayoutref’.

The Playout classic database will keep both records in the database (one without ‘enddate’, one with) so there is an audit trail of the data supply. Data will be validated between the first and the second record. Media Owners will be able to improve data quality with rules as follows:

- Neither mandatory nor optional fields supplied in the ‘up’ record can be amended in the ‘down’, with the exception of the specific ‘Brand not provided at point of trade’ brandids
- Optional fields not populated in the ‘up’ record, but populated in the ‘down’ record, will be accepted.
- Once a record with an ‘enddate’ has been submitted, it cannot be amended.

Media Owners may also submit a single record with a unique ‘mediaownerplayoutref’ to Playout containing both a ‘startdate’ and an ‘enddate’ once a creative is removed.

For scrollers, Media Owners may post several 'up'/'down' records e.g. should a campaign go on for more than 2 weeks there may be several ‘up’ and ‘down’ records for a campaign duration as the number of creatives (and therefore ‘shareoftime’) may change over that period.

N.B. An 'up' record will be a row, a 'down' will be a further row and both will be exported via S3. There is also the possibility that just a 'down' is received/reported.

N.B. An 'up' record will be a row, a 'down' will be a further row and both will be exported via S3. There is also the possibility that just a 'down' is received/reported.

Record definition

Each record (each line of the file) reflects all the data associated with a single playout on a single frame. All reporting is at the frame level (e.g. linked assets are not represented).

Mandatory fields are marked with an asterisk ‘*’ in the following specification.

Some fields *must* be populated under certain circumstances, as described in the *Description* column below. Such fields are marked with a ‘?’ below.

Supply

Note that the existing S3 bucket and folder already used for Digital play data will also be used for supplying Classic data files.

Record augmentation

Note that Playout will record the SPACE Media Owner ID against each ingested playout. It will be determined from the S3 folder into which the file is dropped.

The date/time of ingesting a record (‘inserttime’), and an ID unique to each file processed (‘jobid’) will be included in the data stored in the data warehouse.

Second record: provision of enddate/endutctime

Once creative is removed from a classic frame, the Media Owner must provide the record again, but this time with the ‘enddate’. This second record must use the same ‘mediaownerplayoutref’ as the initial record.

This will be added to the Playout classic database as a second record, with its own ‘inserttime’ and ‘jobid’ (but the same ‘mediaownerplayoutref’).

Playout Static Frame File specification

Field name	Type	Format	Description
*frameid	INT4	SPACE Frame ID	The Frame ID held in SPACE.
***startdate**	TIMESTAMP	*yyyy-mm-dd_T_hh:mm:ss.sss*	The UTC start time of the display.
***startutcoffset**	TZ_OFFSET	±hh:mm Z	Time zone offset for the display start time (e.g. +01:00 for BST; Z or +00:00 can be used for GMT.
?enddate	TIMESTAMP	*yyyy-mm-dd_T_hh:mm:ss.sss*	The UTC end time of the display. This may not be in the future. Media Owners must leave this field blank when the creative is posted and not yet removed.
?endutcoffset	TZ_OFFSET	±hh:mm Z	Time zone offset for the display end time (e.g. +01:00 for BST; Z or :00:00 can be used for GMT.) Media Owners must leave this field blank when the creative is posted and not yet removed.
shareoftime	DECIMAL (5,2)	Percentage to max 2 decimal places (no % sign).	The SOT a creative had, or is known will have
*orderid	TEXT	Max length 256 characters.	Media Owner-defined order identifier.
?lineid	TEXT	Max length 36 characters.	The identifier for the order line that this playout belongs to. This is mandatory for OpenDirect trades, but its presence is not policed by Playout. Media Owners must determine when this must be supplied.
*spacebuyerid	INT4	Max value 2147483647	SPACE-defined ID for the buyer (often a Specialist). This can be a SPACE Agency ID or Client ID. (Note that these IDs do not overlap in SPACE.)
spaceagencyid	INT4	Max value 2147483647	SPACE-defined ID for the agency. If the Agency is the same as the Buyer, this field should still be populated to aid reporting.
*spacebrandid	INT4	Max value 2147483647	SPACE-defined Brand ID.
buyercampaignref	INT4	INT4	Max length 64 characters | Buyer-defined campaign reference (could be an Order ID, for example).
*creativeid	TEXT	Max length 64 characters	Media Owner-defined creative identifier.
*creativename	TEXT	Max length 128 characters	Creative title, to assist with reporting. Usually a filename.
thirdpartycreativeref	TEXT	Max length 128 characters	Creative reference provided by a third-party such as the creative agency. This might be a URL or a GUID, for example.
*mediaownerplayoutref	TEXT	Max length 48 characters	Media Owner-defined reference representing this record. For the Media Owner, this should uniquely identify this record across all time. (Note that records supplied by other Media Owners may happen to use the same ID however.)

NB this differs from Digital as ‘enddate’, ‘endutcoffset’ and ‘shareoftime’ are optional, and ‘spotlength’, ‘creativetriggerevent’ and ‘playerref’ are not present.

---

https://github.com/Outsmart-OOH/PlayoutReportingStandard/blob/main/Playout/playout-classic-file-format.md

Appendix B: Playout Field Validation

This section describes the validation process undertaken when processing Playout records uploaded by Media Owners.

Record-level validation: Validation is at a record level, not a file level. Successfully validated records are inserted to the warehouse. An exception report for Media Owners will detail what has failed and why.

Ignore resubmitted successfully processed records: Any records exactly matching already (successfully) processed playouts will be silently ignored by Playout and no exception produced in this scenario.

Validations

1. **Frame type rules**

Playout uses the Frame ID to look up the Frame Type held in SPACE. The Frame Type determines whether the frame is Digital or Classic and therefore which validation rules to apply.

Media Owners provide one record for a Digital playout. Media Owners may provide two records for a Classic posting (an 'up' record and a 'down' record, or just a 'down' record).

For Classic frames neither mandatory nor optional fields supplied in the 'up' record can be amended in the 'down', with the exception of specific 'Brand not provided at point of trading' `brandid` entries. Optional fields not populated in the 'up' record, but populated in the 'down' record, will be accepted. Once a record with an `enddate` has been submitted, it cannot be amended.

2. **Mandatory field rules:**

For fields marked with an asterisk (*) in the File Format, a value must be populated.

3. **Date/time rules:**

When providing `startdate` and/or `enddate`, it is mandatory to provide the associated time zone (`utcoffset`) value.

Digital - it is mandatory to provide either:

- `Startdate/enddate`, **or**
- `startdate/spotlength`, **or**
- `enddate/spotlength`

Playout will store all fields (startdate/enddate/spotlength) calculating the missing one as necessary. If all three fields are provided, enddate will be ignored and recalculated.

Records with a startdate (provided or calculated) older than 14 days will be rejected.

Classic – it is mandatory to provide:

- `Startdate` in the 'up' record
- `Startdate` and `enddate` in the 'down' record

NB `spotlength` is not present in the classic file format.

'Up' records with a startdate older than 14 days will be rejected.

'Down' records with an enddate older than 14 days will be rejected.

'Up' records received for a Frame ID where no corresponding 'down' record, matched on the mediaownerplayoutref, has been received (i.e. there is no enddate for a posting) will flag a 'Warning' to the Media Owner. Classic frames identified as Rotating/Scrolling are exempt from this requirement.

4. Field type rules:

Field type	Rule
INT4	Must be a non-negative integer with a maximum value of 2147483647
INT8	Must be a non-negative integer with a maximum value of 9223372036854775807
TIMESTAMP	Must adhere to this format (with hyphens, T, colons and full-stops as shown): yyyy-mm-dd_T_hh:mm:ss.sss yyyy, mm, dd, hh, mm, ss, sss must adhere to permitted values as per ISO8601
TZ_OFFSET	Either: Must begin with a + or – followed by a time adhering to this format: hh:mm (including the colon). hh and mm must adhere to permitted values as per ISO8601. or: Must be the single character Z
DECIMAL (5,2)	Must be a number with a maximum of two decimal places. If the decimal point is present, then at least one decimal place must be provided. The number must not exceed 100.00
TEXT(n)	May contain zero or more UTF-8 characters. The value may optionally be enclosed in double-quotes (UTF-8 0x22) and, if so, the value may include escaped double-quote characters (two double-quotes). The maximum length of the value, excluding enclosing double-quotes and excluding any double-quote escape characters, must not exceed n

5. Field-specific rules:

Field name	Rule
`frameid`	Must represent a valid ID held in SPACE. Must be exactly 10 digits to adhere with the SPACE standard. The frame should belong the Media Owner (on the date of the playout – with a 7-day tolerance).
`startdate/ startutcoffset and enddate/ endutcoffset`	Must not be in the future. End date/time must not be before start date/time.
`shareoftime`	Must not exceed 100.00
`spacebuyerid`	Must be a current SPACE-defined ID for the buyer, either a SPACE Agency ID or Client ID. (Note that these IDs do not overlap in SPACE.)
`spaceagencyid`	Must be a current SPACE-defined ID for the agency.
`spacebrandid`	Must be a current SPACE-defined Brand ID

6. Overlapping play rule:

For a given playout, the start/end period for the given Frame ID must not overlap with the period of an existing playout in the data warehouse for that frame.

A 1.5 second tolerance exists with this overlap checking.

It is assumed that the play which is already in the Playout database is correct (with subsequent overlapping plays being rejected.)

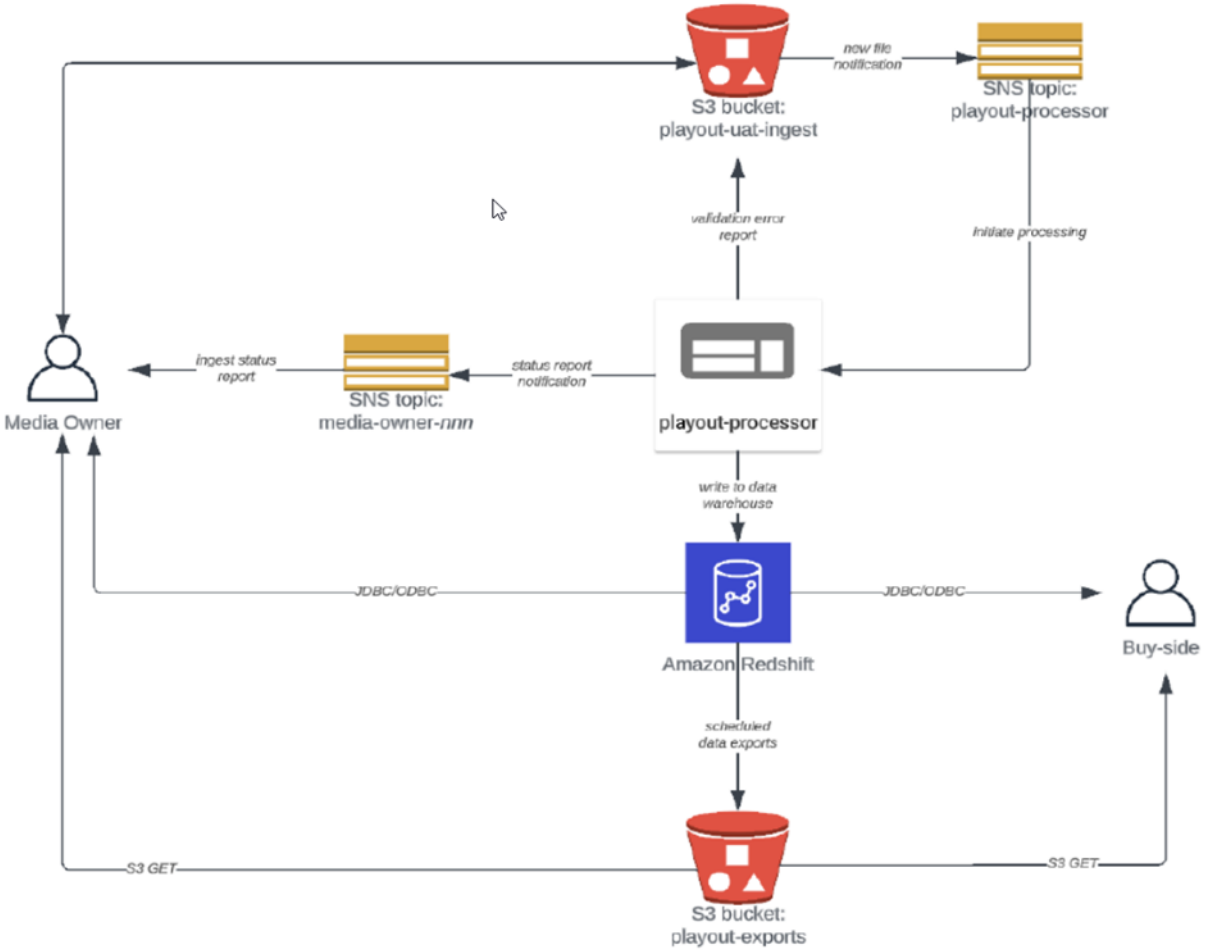
Appendix C: Playout Error Codes and Descriptions

Error	Error code	Description	Classic/ Digital
errorFieldCount	100	The record has more or less fields than the expected number of fields	Both
errorMissingMandatoryField	101	Mandatory fields must not be blank. Refer to the specs for information on mandatory fields	Both
errorMissingMandatoryMediaOwnerPlayoutRef	102	MediaOwnerPlayoutRef field must not be blank. Refer to the spec for information on mandatory fields.	Both
errorInvalidMediaOwnerPlayoutRefFormat	103	Must have a maximum length of 48 characters	Both
errorMediaOwnerPlayoutRefNotUnique	104	Must be unique	Both
errorInvalidFrameIdFormat	110	Must be an integer between 1000000000 and 2147483647	Both
errorInvalidPlayerRefFormat	120	Must have a maximum length of 36 characters	Digital
errorInvalidDateTimeFormat	130	Must be formatted as: yyyy-mm-ddThh:mm:ss.sss	Both
errorInvalidTimezoneFormat	131	Must be formatted as: ±hh:mm or Z	Both
errorDateTimeIsInFuture	132	startdate and enddate must not be in the future	Both
errorSpotEndIsBeforeSpotStart	133	enddate of a spot must not be before the startdate of the same spot	Both
errorInvalidSpotLengthFormat	134	Must be a positive integer representing not more than the number of milliseconds in one year (31556952000)	Both
errorInvalidShareOfTimeFormat	140	Must be a DECIMAL(5,2) data type - and must not be more than 100.00	Both
errorInvalidShareOfTimeOnOpenPlay	141	UP record, but share of time is not empty	Classic
errorInvalidOrderIdFormat	150	Must have a maximum length of 256 characters	Both
errorInvalidLineIdFormat	160	Must have a maximum length of 36 characters	Both
errorInvalidSpaceBuyerIdFormat	170	Must be an integer with a maximum value of 2147483647	Both
errorInvalidSpaceAgencyIdFormat	171	Must be an integer with a maximum value of 2147483647	Both
errorInvalidSpaceBrandIdFormat	180	Must be an integer with a maximum value of 2147483647	Both
errorInvalidBuyerCampaignRefFormat	190	Must have a maximum length of 64 characters	Both

Error	Error code	Description	Classic/ Digital
errorInvalidCreativeIdFormat	200	Must have a maximum length of 64 characters	Both
errorInvalidCreativeNameFormat	201	Must have a maximum length of 128 characters	Both
errorInvalidThirdPartyCreativeRefFormat	202	Must have a maximum length of 128 characters	Both
errorInvalidCreativeTriggerEventFormat	203	Must have a maximum length of 64 characters	Digital
errorPlayoutUnexpectedDataChanged	250	DOWN record differs from UP record, (for columns that can be improved, i.e. from blank to a value)	Classic
errorKnownBrandIdChanged	251	Brand Id (Unless it is a "not provided" ID) is not mutable	Classic
errorPlayoutDataIllegalDataChanged	252	DOWN record differs from UP record, (for columns that cannot be improved)	Classic
errorFrameNotInSpace	300	Frame ID must exist in the SPACE database	Both
errorFrameIsClassicButDigitalAttributes	301	If the given frame exists in SPACE as a 'static' or 'rotating/scrolling' frame, it must not have a playerref and must not have a creativetriggerevent and the spotlength must be more than 24 hours	
errorFrameClosed	302	Frame is listed as 'out of charge' in SPACE at time of play	Both
errorFrameNotOwnedByMediaOwner	303	Frame is recognised in SPACE as being owned by a different Media Owner to the one listed in this record at the time of play	Both
errorBuyerNotInSpace	310	Must match a current buyer record in SPACE	Both
errorAgencyNotInSpace	320	Must match a current agency record in SPACE	Both
errorBrandNotInSpace	330	Must match a current brand record in SPACE	Both
errorPlayOverlapsWithExisting	400	This play's startdate/enddate must not overlap with those of any other previously accepted play for this frame (with a tolerance of 1.5 seconds)	Both
errorDuplicatePlay	401	The play is a duplicate of an existing play in	Both
errorPlayTooOld (Digital)	402	The start date of a play must not be older than 14 days	Digital
errorPlayTooOld (Classic)	402	‘Up’ records with a startdate older than 14 days will be rejected. ‘Down’ records with an enddate older than 14 days will be rejected.	Classic
warningOpenPlayForFrame	410	When a new play with a unique Media Owner Ref is recorded, but we have an existing UP record but no DOWN	Classic
errorPlayoutFatalError	500	Some exceptional processing error has occurred	Both

https://github.com/Outsmart-OOH/PlayoutReportingStandard/blob/main/Playout/Playout%20Error%20codes%20%26%20Descriptions.pdf

Appendix D: The Playout Process Overview



Thank you for reading

Playout: Setting the Standard for Validated OOH Data

Playout Support:

https://oohplayout.com/

Playout technical specifications

https://github.com/Outsmart-OOH/PlayoutReportingStandard/tree/main/Playout

Need help or more information? Email: playout@uk.adwanted.com

Scan a QR code or click the link to visit.

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