



Spoon Guru Workshop: **Exploring the Potential of** **Technology in NPM 2018** **Implementation**

June 2026



Executive Summary

BACKGROUND

Spoon Guru, a technology provider, convened experts from across the food industry alongside academics, charities and Government to explore how technology may support the implementation of the 2018 nutrient profiling model (NPM 2018).

GOAL

The goal of the session was the “Feasible, consistent application of NPM 2018 to support Mandatory Policy Implementation”.

Discussions highlighted significant variation in current data types, availability, systems, resources and technical capability across the food system. Fragmented data, commercial confidentiality and limited capacity, capability, infrastructure, tools and systems are key constraints that need to be resolved to support consistent implementation at scale.

DISCUSSIONS

Despite these challenges, the workshop moved discussions from problem identification towards practical, collaborative solutions. Participants developed a range of assumption-based approaches to NPM 2018 implementation reflecting the realities of current data availability.

PRIORITIES

We reached broad consensus on three priority requirements for progress with consistency and confidence:

1. **Improved connectivity** between datasets, systems and stakeholders
2. **Implementation guidance** defining standardised assumptions, tolerance thresholds and validation requirements, with assurance approach is acceptable and aligned with enforcement practices
3. **Inclusive access** to practical implementation support e.g. tools, systems and training, for both technical and non-technical users

Executive Summary: Outcome

Technology was recognised as a key enabler of scalable implementation.

Proposed opportunities included secure digital infrastructure, standardised data formats, integrated systems, shared databases and automated calculation tools capable of improving consistency, reducing manual burden and supporting system-wide participation.

Participants also identified potential for machine learning systems to improve estimation accuracy over time through human correction and shared learning across the system.



Overall, the workshop successfully established a clearer understanding of the practical requirements for NPM 2018 implementation and generated a strong foundation for future collaborative, standardised and technology-enabled approaches.

Workshop: Exploring the Potential of Technology in NPM 2018 Model Implementation

Spoon Guru, a technology provider, convened experts from across the food system including retailers, manufacturers, out of home food providers, wholesaler and ingredient suppliers alongside academics, charities and Government to explore how technology may support the implementation of the 2018 nutrient profiling model (NPM 2018).

The workshop was facilitated by Anna Wheeler, Nutrition Talent, with stimulus provided by Lewis Wallis, Campden BRI, Hannah Skeggs, IGD, Maisie Rowland and Danielle McCarthy, Spoon Guru.



Workshop: Our Three Missions

The workshop aimed to move discussions on NPM 2018 implementation beyond identification of challenges towards practical, collaborative and scalable solutions.

The overarching goal of the session was the feasible and consistent application of NPM 2018 to support mandatory policy implementation, a focus which remained central throughout discussions.

Bringing together stakeholders from across the food system, the workshop explored existing technological capabilities, identified areas of consistency and standardised assumptions that could support progress in operationalising NPM 2018 and gathered cross-sector perspectives on requirements and the role technology could play in enabling scalable and consistent implementation.

A series of breakouts were designed around 3 missions:

MISSION 1:
Connections

MISSION 2:
Consistency

MISSION 3:
Context



Workshop: Our Three Missions

To ensure these missions were approached with the reality of the complexity of the food system today, each of the six working groups were given a different starting point, which reflected the variation in the type and amount of data available to those to whom this goal resonates

For example: food system stakeholders (manufacturer, retailer, out of home provider, wholesale, ingredient supplier), technology provider, academics, government.



To encourage a **solution oriented approach**, guidance was given to consider:

- **The 80:20 rule**
80% outcomes come from 20% inputs
- **A progressive approach**
what can be done now & next
- **Focus on collaborative consensus**

Technology Overview

Nutrition Intelligence (NI) is the structured integration of nutrition science within digital infrastructures and tools, including AI, to generate actionable insights that support healthier decision making.

It interlinks with the food data landscape and its deployment can support the activation of multiple levers of change required for healthier food system transformation such as health metric generation and tracking, policy implementation at scale, business innovation and the deployment of multi-component health interventions across food environments.

It offers the potential to translate and apply nutrition expertise with impact beyond human scale.



Existing NI enables multiple, expansive datasets to be integrated and structured in a way that they become usable by systems. Quality management processes are essential to ensure outputs are based on quality underpinnings. These can include automated validation processes alongside expert-in-the-loop oversight. NI can support automated interpretation of data that aligns with expert defined policies.

Spoon Guru provided an oversight of existing techniques utilised within their system relevant to the implementation of the NPM 2018. These included:

- Smart ingredient mapping *e.g. identifying the food group an ingredient belongs to, identifying ingredients containing free sugars*
- Automated ingredient estimation with incomplete or unavailable QUID information
- Consistent application of accepted nutrient assumptions *e.g. nutrient conversion factors and integration of existing free sugars data.*

Technology Overview

Technological transformation is happening at a pace, far different to the pace of change of other workflows that impact the food system, e.g. policy development and implementation, design and delivery of academic research studies and food product development.

Not all Artificial Intelligence (AI) is Nutrition Intelligence (NI)



Critical to successful deployment of NI at this precipice of change brought about by rapid technological advancement is to ensure:

- NI is expert-led in its design, validation and evaluation
- The deployment of NI is informed by experts with deep experience of existing applications of nutrition science
- Cross-sector accessibility to NI



It is vital and timely that Nutrition Intelligence is designed and deployed effectively to ensure technological solutions being accessed by decision makers across food, health and digital systems are based on robust NI.

The background features a complex, abstract design. It consists of various shades of blue, from light to dark, forming geometric shapes like triangles and polygons. Overlaid on these are white lines that resemble a circuit board or a network diagram, with small white circles at the intersection points. The overall effect is a sense of technology and connectivity.

Mission 1: Connections

Mission 1: Connections | Themes Identified

Theme 1:

Connected & Traceable Data Flows

Participants highlighted the need for clear, efficient, transparent and traceable data flows across the food system, including access to back-of-pack data, ingredient declarations, nutrition panels, recipes, specifications and sub-ingredient supplier information.

While manufacturers, retailers, out-of-home businesses, caterers, wholesalers, ingredient suppliers and technology providers currently manage data differently, there was broad agreement that improved connectivity between datasets would support technical granularity for NPM 2018 implementation with greater legal certainty.

Some participants suggested that policy-driven data-sharing requirements may ultimately be necessary.

Theme 2:

Clear Guidance on Compliant Practice

Participants identified a need for implementation guidance (beyond existing [technical guidance](#)) with Government assurance that assumption-based approaches are acceptable and represent compliance with policy.

This would help resolve tensions between the desire for complete, highly detailed data and the practical reality that estimation approaches are unavoidable for free sugars which cannot be measured analytically and at times necessary for other elements of the NPM 2018 depending on data availability.

Suggested areas for standardisation included:

- Agreed assumptions and estimation methods
- Documentation and reporting requirements to support consistent transparency, validation and verification processes
- Guardrails and tolerance thresholds with acceptable variability appropriate to context of use

Alignment between implementation guidance and enforcement practices was considered essential for building confidence and consistency across the system.

Mission 1: Connections | Themes Identified

Theme 3:

System-wide Awareness and Enforcement Alignment

Participants noted that successful implementation would require improved awareness and understanding of NPM 2018 requirements both within organisations and across the wider supply chain, including non-UK suppliers.

This includes commercial, technical and leadership teams, alongside enforcement and regulatory bodies such as the Food Standards Agency, Trading Standards, Advertising Standards Authority and Clearcast.

Theme 4:

Health Impact Evaluation

Participants highlighted the importance of stronger connectivity between researchers, NGOs and NPM-related datasets to support evaluation of whether NPM implementation delivers meaningful public health impact on childhood obesity outcomes for which it has been intended to address.



Theme 5:

Inclusive and Affordable Implementation

Participants stressed that implementation approaches must be practical, affordable and accessible for all stakeholders, including SMEs and enforcement bodies.

Increased data requirements may place growing pressure on suppliers, many of whom may lack the capability and internal nutrition expertise, capacity or resources to provide additional information.

Participants also noted limited commercial incentives for businesses to invest in data management systems, tools or specialist personnel where there is no direct financial return.

Mission 1: Connections | Solutions & Benefits

Benefits of Improved Connectivity

- Improved accuracy and consistency in NPM calculations across stakeholders
- Reduced variability in outputs through more consistent input data
- Better access to existing but fragmented datasets
- Greater ability to validate assumption-based approaches
- Improved regulatory clarity around tolerances, scoring and classifications
- More standardised data flow, reporting and impact assessment
- Reduced duplication of effort and improved alignment across the system

Proposed Solution 1: Independent Centralised Data Repository

Participants proposed an independent third-party data repository to securely hold sensitive supplier information while protecting commercial intellectual property. Such a system could support consistent NPM calculations, validation processes and access to trusted source data.

Commercial sensitivity was recognised as a key consideration, with suggestions that access would need to be tightly controlled and limited to regulators or validated organisations responsible for scoring.

Participants suggested that barcode-linked systems could potentially connect manufacturers, retailers, Government and enforcement bodies such as Clearcast.

Proposed Solution 2: Data Integration and NPM Calculation Tools

Participants also discussed the potential for tools capable of integrating multiple data sources including specifications, back of pack information, recipes and nutrition declarations and to automate NPM 2018 score calculation and classification of foods that are high in fat, salt or sugar (HFSS).

In addition to improving efficiency, such tools could support product development and internal decision-making processes.

Mission 1: Connections

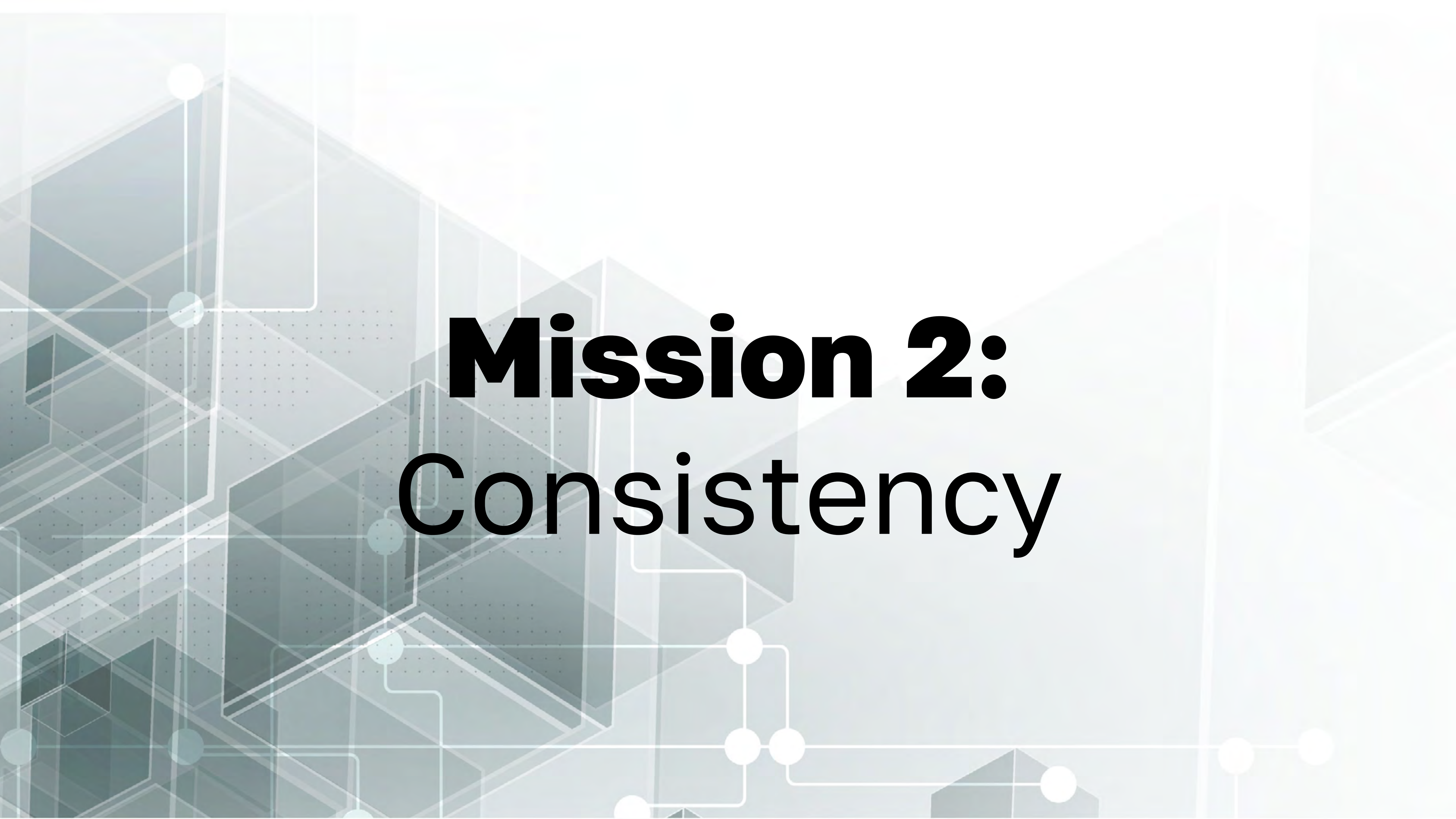
Potential Role of Technology

Technology was viewed as a potential enabler of scalable implementation and improved system connectivity.

Potential roles included:

- Development of secure digital infrastructure and standardised data formats
- Improved integration of specifications, recipes and nutrition data
- Bridging technical knowledge gaps between industry and enforcement bodies
- Increasing accessibility and supporting a more level playing field across organisations



The background features a complex, layered geometric design. It consists of numerous overlapping, semi-transparent planes in shades of light blue and grey, creating a three-dimensional effect. Interspersed among these planes are thin, white lines that form a network or circuit-like pattern. Some of these lines are straight, while others are curved. Small, solid white circles are placed at various points along the lines, resembling nodes or data points in a network. The overall aesthetic is clean, modern, and technological.

Mission 2: Consistency

Mission 2: Consistency | Themes Identified

Reality of Current Data Availability

Workshop discussions highlighted broad recognition that, while the ideal scenario would involve access to complete datasets, recipes, specifications and sub-ingredient information, this level of detail is not consistently available across the food system and may never be fully attainable or universally accessible across all stakeholders.

Participants noted the practical challenges of estimating free sugars where ingredient proportions, processing effects or cooking losses are unknown, reinforcing the need for standardised assumptions and category-based rules to support consistent and defensible approaches.

There was recognition in group discussions that progress should focus not only on achieving more complete data, but on making best use of currently available information while continuously refining methods and improving accuracy over time.

Themes Identified:

Each group was tasked with developing approaches to calculate levels of fruit, vegetables, nuts and seeds (FVNS) and / or free sugars using different starting datasets, reflecting the variation in data type and availability across stakeholders.

Despite these differences, there was alignment across groups on four areas of assumptions to enable FVNS and free sugars calculation in practice. They were: Data Use, Ingredient Estimation, Cooking and Processing.



Table 1 summarises the key elements of the assumption-based pragmatic approaches to free sugars and FVNS estimation developed by the groups.

Mission 2: Consistency | Themes Identified

Table 1. Proposed assumptions for estimating FVNS and free sugars from different data types

	Data Use	Ingredient Estimation	Cooking	Processing
General Info	- Assume data provided is accurate <i>e.g. specifications, QUIDs, ingredient lists</i> - Use to identify amounts of key ingredients	- When data is unavailable, estimate ingredient amounts using ingredient order and number of ingredients - Assume zero for trace ingredients - Conservative assumptions for legal compliance	- Apply standard cooking assumptions - Clarify “as sold” vs “as consumed”	Utilise information available that reflects processing <i>e.g. dried, apply accepted conversion factors</i>
Additional for FVNS	Apply Technical Guidance to identify FVNS ingredients	Underestimate FVNS	Assumptions may be category-specific	Category specific rules may be needed <i>e.g. nut based drinks</i>
Free Sugars	- Apply Technical Guidance to identify free sugars ingredients - Category specific rules may be needed	- Overestimate free sugars Use free sugars data where available - Could consider seasonality / ripeness - Apply total sugars cap	Assumptions may be category-specific	Could be category specific; graded; linked to terminology <i>e.g. chopped, pureed</i>

Mission 2: Consistency | Proposed Solutions

Proposed Solution 1:

Guidance and Data Quality

Participants identified implementation guidance as essential to support consistent application of existing [technical guidance](#) with assurance from Government that assumption-based approaches are acceptable.

Training to improve supplier data quality and consistency in application was also considered important, alongside greater access to centralised and regularly updated ingredient specification data.

Proposed Solution 2:

Validation and Tolerance Thresholds

Validation and quality assurance were viewed as critical. Suggested approaches included:

- Comparison with datasets containing detailed recipe, specification data, back of pack information, ingredient declaration and nutrition tables
- Randomised manual reviews
- Testing estimation methods by removing known values
- Transparent reporting of methodological variation
- Defined tolerance thresholds, particularly where differences could affect NPM scores or HFSS classification

Additional measures discussed included validation of underlying assumptions, external review, audit processes and confidence scoring systems to indicate data robustness.

Proposed Solution 3:

Expertise and Governance

Participants agreed that NPM 2004/5 calculations currently require specialist understanding and interpretation of existing [technical guidance](#).

Participants recognised the potential for human error within manual processes which currently are identified when sampling processes are carried out.



Mission 2: Consistency | Proposed Solutions

Proposed Solution 4:

Mandatory Policy

Implementation Considerations

Participants highlighted the importance of a clear implementation framework for mandatory policy application, including standardised assumptions and defined tolerance levels.

One contribution clarified that all product categories are relevant for mandatory reporting, regardless of current HFSS restrictions, as category-level improvements in NPM scores remain possible.

Responsibility for data provision, interpretation and NPM 2018 application was recognised as sitting across the supply chain, reinforcing the need for shared terminology, replicable methods and system-wide consistency.



Participants noted that implementation frameworks and associated assumptions would likely need to be formally defined and mandated to ensure utilisation, comparability and confidence in outputs.

Mission 2: Consistency

Potential Role of Technology

Participants discussed the potential role of technology in improving consistency and scalability of NPM 2018 implementation.

Potential opportunities included:

- Machine learning systems that improve over time through human correction of estimation errors
- Automated identification and resolution of data discrepancies
- Centralised shared databases to support consistent estimation approaches
- System-wide learning from errors and variations to improve future accuracy

The airline industry was referenced as an analogy, where shared reporting of incidents and errors supports continuous safety improvement. A participant suggested a similar model of structured data sharing could help improve estimation precision and implementation quality across the food system over time.





Mission 3: Context

Mission 3: Context | Themes Identified

Application of Assumption-Based Approaches

Participants considered the application of assumption-based approaches to NPM 2018 implementation from two perspectives:

- “Where” these approaches would be applied, such as informing internal decision-making, mandatory reporting, selecting products for advertising, placement and promotions.
- “How” they could be implemented consistently and feasibly across organisations and sectors.

Contexts of Use (“Where?”)

Whilst areas of consistency that could be integrated into standardised implementation guidance were identified (Table 1), some participants expressed discomfort that such approaches would not deliver absolute precision, which would be the ideal for assuring legal certainty. Higher confidence levels were reported for applying assumption-based approaches to FVNS levels than free sugars. Examples from existing regulated practices, such as nutrition labelling, were discussed to illustrate that some level of variability is already accepted within defined tolerance thresholds. However, participants noted that variability in application of NPM 2018 may carry greater commercial implications within mandatory policy contexts.

It was also recognised that many current HFSS estimates already rely on incomplete data and limited supplier engagement. Participants suggested that improved data sharing, standardised assumptions, transparent methodologies and agreed validation approaches could significantly improve confidence, consistency and ensure fairness across the system.

Feasibility of Implementation (“How?”)

Current organisational practices were explored to ascertain the feasibility of assumption-based approaches to the application of NPM 2018 model to support mandatory policy implementation.

Mission 3: Context | Themes Identified

Significant variation was identified both across and within sectors, including:

- Differences in access to data
- Data type
- Systems
- Tools and infrastructure
- Governance procedures
- Technical expertise
- Available resources and capacity

Despite this variation several common considerations for feasible and consistent NPM 2018 implementation were identified (*Table 2*).

These requirements were defined by mixed stakeholders groups therefore reflect perspectives from across the system.

It was not possible in the time available to map these needs sequentially.



Mission 3: Context | Themes Identified

Table 2 Existing Organisational Practices and Additional Requirements for NPM 2018 implementation

	Current Reality	What Would Support Consistent, Feasible NPM 2018 Implementation
Data	• Lack of free sugars data. <i>(Cannot be measured analytically, <u>technical guidance</u> describes calculation required)</i> • Inconsistent data availability • Variation in approach to calculations • Variable confidence in accuracy of data available. This applied to various data types <i>e.g. back of pack data, spec data, ingredient lists, supplied data.</i> • Variation in access e.g. pay to access BOP, data sharing agreements, data scraping	• Consistent, accessible baseline datasets within a business • Robust flow of data and quality assurance <i>e.g. free sugars values embedded in business specification systems</i> • Inclusion of processing data and/or clear assumption frameworks for ingredients and end products to enable the implementation of NPM 2018 in a standardised way across the system • Guidance for missing data scenarios • Product-level sales data and manufacturer-provided NPM scores
Systems & Tools	• Mix of automated, semi-automated internal systems and completely manual approaches <i>(no system, no tools, no software)</i> • Fragmented organisational data systems, very basic, very manual • Heavy reliance on human judgement (human error) and assumptions	• Access to public, shared, automated, scalable validated calculation systems, algorithms and tools e.g. to read ingredients, estimate ingredients, calculate, verify and capture free sugars values and hold specs inside specs alongside assurance that such approaches and systems are acceptable. • Continuous integration of new data into systems.

Mission 3: Context | Themes Identified

Table 2 Existing Organisational Practices and Additional Requirements for NPM 2018 implementation

	Current Reality	What Would Support Consistent, Feasible NPM 2018 Implementation
Expertise & Capacity	- Capacity constraints - Variable technical expertise <i>(sufficient / lack of / confused)</i>	- Increased resourcing/ time across organisations to continuously implement and validate, potentially very manual, new processes - Scalable system to reduce manual burden and enable continuous accuracy given regularity of changes to product formulations, menus etc. - Improved supplier expertise, capability - Continued understanding of the public health impact of NPM-based approaches
Organisational Awareness & Engagement	- Low awareness outside technical teams - Limited cross-functional understanding (e.g. R&D, tech) of NPM 2018 and magnitude of impact	- Upskilling across wider functions and stronger internal alignment across departments - Clear business case support for investment - Mechanisms to drive participation <i>(including enforcement where needed)</i>
Governance & Assurance	- Limited governance - Inconsistent approaches <i>(Manual HFSS checks / no robust checking / limited knowledge & resource)</i>	- Clear guidance on standardised approaches to NPM 2018 implementation with acceptable assumptions and tolerances for estimating ingredient levels, FVNS, free sugars. Validation and sensitivity guidance to give confidence of appropriateness of assumption-based approach for NPM score reporting and HFSS classification. - Confirmation of acceptability of above approaches in context of mandatory policy implementation with assurance such approaches are deemed fit for purpose by regulator. - External assurance and/or dedicated expert body to provide reassurance implementation processes are adequate. - Clear enforcement framework and liabilities - Guidance for customised products <i>e.g. a pizza with individually selected toppings</i>

Mission 3: Context | Prioritised Needs

Accessible Data

Access to high quality data, which is traceable, validated, consistent and centralised.

Guidance

Clear implementation guidance with standardised assumptions, clearly defined guardrails such as acceptable tolerance thresholds and validation requirements. Assurance that such assumption-based approaches are acceptable to Government and aligned with Regulator and enforcement practices.

Participants also discussed the potential need for formal mandating of such frameworks to support consistency, compatibility and confidence across the system.

Training

Training was recognised as critical to support both nutrition experts and non-technical personnel involved in data provision, guidance interpretation and implementation.

Participants noted that training could help address current gaps in awareness, knowledge and quality assurance processes.

Governance, Responsibility & Inclusivity

Participants stressed that implementation approaches must be inclusive and practical for all stakeholders, including SMEs, given their important role in data provision across the supply chain.

Suggested measures included:

- Access to algorithms and calculator tools
- Financial support to address capacity and capability gaps
- Centralised solutions to reduce duplication and inconsistency

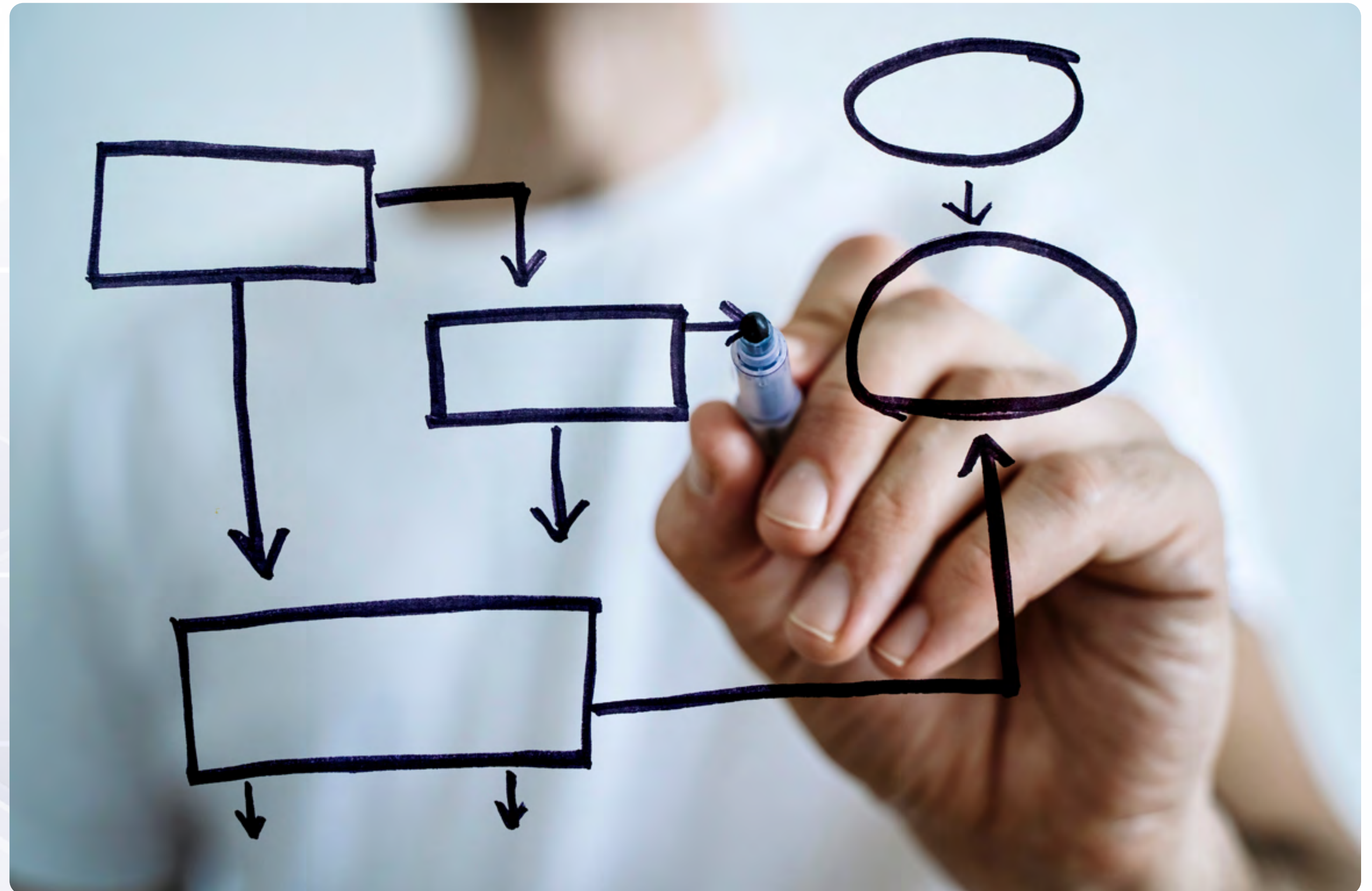


Mission 3: Context | Prioritised Needs

Although currently NPM 2004/5 implementation is ongoing there was significant discussion regarding where responsibility for data provision and NPM 2018 scoring should sit.

Many participants suggested this should sit with manufacturers and suppliers whilst others questioned whether suppliers have the resources, capability and capacity to meet such requirements and the impact of this approach on the likelihood of achieving consistency.

Participants also raised concerns regarding enforcement, including which datasets and approaches regulators would use to assess compliance and whether businesses would invest in the systems and resources required without stronger incentives or support.



Mission 3: Context

Potential Role of Technology

Participants discussed the potential for technology-enabled solutions to automate complex data integration and implement NPM 2018 calculations at scale.

Machine learning approaches were seen as having potential to improve over time through iterative correction of estimation errors and discrepancies. Acceptable implementation frameworks were viewed as an important foundation for enabling trusted, consistent solutions to operationalising NPM 2018.

A recurring theme across discussions was that the challenge is not simply a lack of data, but a lack of standardised connectivity between datasets, systems and stakeholders which technological solutions could help address.



Final Reflections & Conclusions

The workshop highlighted both the complexity of implementing NPM 2018 across the food system and the significant opportunity for greater alignment, consistency and collaboration.

Whilst perfect data and absolute precision were widely recognised as the ideal, participants consistently supported the development of transparent, standardised and validated assumption-based approaches that reflect the realities of current data availability whilst enabling greater consistency, comparability and confidence across the system.

The collaborative workshop format, bringing together mixed stakeholder groups in focused, task-oriented discussions proved highly valuable in surfacing shared challenges, increasing cross-sector understanding and identifying practical, solution-orientated pathways towards implementation. Importantly, discussions progressed beyond problem identification towards clearer definition of the structures, guidance, connectivity and support mechanisms required to enable feasible implementation at scale.

Three priority needs were consistently identified to support the feasible and consistent application of NPM 2018 within mandatory policy contexts:

1. Clear implementation guidance on the acceptable use of standardised assumptions, acceptable tolerances and validation approaches when applying estimations to deliver NPM 2018
2. Improved connectivity between datasets, systems and stakeholders
3. Inclusive access to tools, systems, training and support mechanisms capable of enabling practical implementation across the food system

Overall, the workshop established a strong foundation for future collaborative work towards more connected, transparent and scalable approaches to NPM 2018 implementation.



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