

a **TNA** whitepaper

# from better-for-you to better-to-make

How healthier, functional and portion-conscious food trends are reshaping snack and confectionery production





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## summary

Health-led growth in snacks, confectionery and adjacent functional formats is no longer defined exclusively by reduction claims such as low fat or low sugar. Across the latest public research, the focus has moved toward protein, fibre, gut health, cleaner ingredient cues, portion control and a broader expectation that indulgent products should still contribute something positive to the consumer's day.

A snack or confectionery product can now be expected to deliver taste, texture and visual consistency while also carrying a stronger nutritional benefit and a more demanding pack or portion format. In practice, that makes formulation, processing, seasoning, handling, hygiene, weighing and packaging more tightly linked than before.

Recent data reinforces the scale of the shift. In NIQ's 2025 global health and wellness research, 53% of consumers said they planned to buy more high-fibre foods in 2025, while around 40% planned to buy more probiotic foods or high-protein plant-based foods. IFIC's 2025 survey found that a "good source of protein" is now the single most-used criterion for defining a healthy food, ahead of "fresh" and "low in sugar". PwC, meanwhile, found that concerns around ultra-processed foods and pesticides are intensifying, while GLP-1 usage and the search for smaller, more targeted portions are beginning to affect category expectations.

For manufacturers, healthier and functional growth creates more pressure for repeatable line performance. It raises the cost of inconsistency. It increases the value of faster changeovers. It strengthens the commercial case for precise process control, gentler handling, hygienic design and integrated downstream operations that can cope with smaller formats, broader product variation and a more fragmented launch pipeline.

In this paper, we look first at the market shift itself, then at the forces behind it, and finally at what it means for producers working across the food processing and packaging industry, from savoury snacks to confectionery.



## market snapshot

Statistic	What it shows	Source
<b>53%</b>	Consumers across 19 countries planning to buy more high-fibre foods in 2025, signalling sustained demand for positive nutrition rather than simple reduction claims.	NIQ
<b>38%</b>	Consumers in IFIC's 2025 survey defining a healthy food primarily as a good source of protein, ahead of "fresh" and "low in sugar".	IFIC
<b>80%</b>	Americans who say they consider whether food has been processed before purchasing it, showing how processing scrutiny has entered mainstream purchase behaviour.	IFIC
<b>69%</b>	Global consumers agreeing that they look for portion-controlled snacks, underlining the importance of smaller formats and moderated indulgence.	Mondelēz 2024
<b>5%</b>	PwC survey respondents already using GLP-1 weight-loss pharmaceuticals, with a majority reporting smaller portions and lower food spend.	PwC
<b>26%</b>	UK consumers planning to reduce ultra-processed foods in 2026, with a parallel push to cut sugar, fat and salt.	AHDB
<b>3 in 5</b>	Global consumers actively including more protein in their diets as part of healthy snacking habits.	Innova
<b>44%</b>	Global consumers noticing wider benefits across skin, energy and immunity when they improve gut health, supporting demand for functional confectionery and snack formats.	Innova

### healthy is being redefined

The most important shift in better-for-you foods is conceptual. "Healthy" used to be communicated mainly through subtraction: less fat, less sugar, less salt, fewer calories. While that is still present, it no longer explains where a large share of innovation is heading. The market is increasingly organised around addition and optimisation: more protein, more fibre, more digestive support, more nutrient density, more transparency, and a more credible balance between indulgence and control.

The latest data makes that shift abundantly clear. IFIC's 2025 Food & Health Survey found that the top criterion used to define a healthy

food is now "good source of protein" at 38%. "Low in sugar" remains important at 34%, but it sits alongside "minimal or no processing" and "good source of fibre", both at 28%. That is a much broader consumer test than classic calorie reduction alone. It suggests that a healthier product is increasingly expected to do more, not simply contain less.

NIQ's 2025 Global State of Health & Wellness research points in the same direction. More than half of respondents planned to buy more high-fibre foods in 2025, while around 40% intended to buy more probiotic foods or high-protein plant-based foods. Innova's 2026 trend work reinforces the protein side of that picture, with nearly 60% of global consumers saying they are actively incorporating more protein into their diets. Across categories, the clear take away is that positive nutrition is becoming one of the most portable and versatile demand cues in food and beverage.

Yet consumers are not treating health and enjoyment as opposites. Mondelez's 2024 State of Snacking data shows that 81% of global consumers pay attention to the sensory experience of their snacks, while 73% say they would rather have a smaller portion of an indulgent snack than a bigger portion of a low fat or low sugar alternative. In other words, the market is not drifting toward asceticism. It is looking for products that feel satisfying and sensorially complete, while fitting more neatly into personal health goals.

For manufacturers, that redefinition increases formulation complexity without removing any of the old sensory expectations. A product can be high in protein, high in fibre or positioned around gut health, but it still has to deliver the right texture, flavour release, appearance, bite and shelf appeal.



## what is driving the shift

### 1.1 preventive health, every day

Consumers are bringing a more preventative mindset to everyday eating, rather than reserving "health" for supplements, specialist channels or occasional resets. NIQ describes health and wellness as a full-fledged lifestyle shift rather than a short-term trend, while PwC's 2025 food survey notes that consumers increasingly expect food companies to help them lead healthier lives. That expectation pulls functionality into more ordinary formats and occasions.

The result is a wider pressure on mainstream snacks, confectionery and convenience-led products to do more of the work previously associated with fortified or clinical categories. That is why nutrient density, digestive support, protein claims and more explicit wellness cues are now appearing across categories that once traded almost entirely on flavour and convenience.

### 1.2 weight management is changing the shape of demand

The spread of GLP-1 weight-loss medications has accelerated the conversation around smaller portions, satiety and more targeted nutrition. PwC found that 5% of its 2025 survey respondents were already using GLP-1 weight-loss pharmaceuticals, and that a majority of those users were reducing food spending and eating smaller portion sizes. AHDB reported that 4.1% of UK households were using GLP-1 drugs in 2025 and linked the trend to demand for smaller, nutrient-dense, protein-rich meals.

That does not mean the entire food market suddenly becomes a GLP-1 market. It does mean, however, that portion architecture, nutritional concentration and the role of smaller packs are becoming harder to ignore. Even where a product is not explicitly targeted at GLP-1 users, the broader preference for moderation, portability and "less but better" is likely to have far-reaching consequences.

### 1.3 processing scrutiny comes to the fore

In recent years, consumer awareness of food processing has boomed. IFIC found that eight in ten Americans consider whether food has been processed before purchasing it and AHDB's early-2026 UK view found that 26% of consumers planned to reduce ultra-processed

foods in 2026. PwC even found that 62% of respondents cite ultra-processed foods or pesticide use as a more important concern than price, nutrition and sustainability.

This processing scrutiny is a pressure for clarity and ingredient transparency. From a manufacturing perspective, that pressure tends to encourage cleaner labels, smarter reformulation, more careful process choices and more disciplined quality control around what the finished product looks and feels like.

#### **1.4 price pressure has not gone away**

Health aspiration is rising, but it is rising inside a value-conscious environment. AHDB reports that 71% of people who care about diet or fitness say eating well costs too much, while a health-focused evening meal costs about 13% more than meals chosen for other reasons. PwC similarly describes a consumer base that wants food to be healthy, convenient and affordable, but is constrained by higher food prices and broader cost-of-living pressure.

Healthier and functional products cannot rely on virtue alone. They have to justify their price point through quality, convenience, nutrient density or a clearer fit with everyday routines. For manufacturers, it also means the cost of waste, giveaway, line inefficiency and failed launches becomes even more significant.

#### **1.5 from trend to factory floor**

Healthier and function-focused products are not automatically harder to manufacture, but they tend to be less forgiving. They often involve more sensitive ingredients, more variable raw material behaviour, tighter sensory tolerances, stronger hygiene expectations or smaller pack formats. As a result, the burden shifts from pure throughput to controlled throughput.

That changes what manufacturers need from their operations.

#### **1.6 processing and formulation are becoming more interdependent**

Higher protein content, added fibre, reduced sugar approaches, cleaner labels, alternative raw materials and benefit-led ingredients

all create potential changes in texture, flow, moisture behaviour, oil uptake and flavour delivery. In savoury applications, that can alter how products respond during slicing, blanching, frying, seasoning and cooling. In confectionery and gummy formats, it can affect depositing behaviour, texture development, curing, finishing and downstream handling.

Manufacturers need processing environments that are stable enough to protect product quality while still leaving room for innovation. That makes process control, repeatability and collaborative product-to-line development more commercially important.

#### **1.7 consistency matters more than ever**

Healthier positioning does not buy immunity from disappointment. If anything, it raises the standard: consumers may forgive a less familiar ingredient list, but they still expect a product to crunch correctly, coat evenly, bite cleanly, hold shape, and deliver flavour with confidence. The better-for-you promise is therefore layered on top of sensory expectations.

This is why manufacturing conversations increasingly turn toward oil management, seasoning precision, depositing accuracy, gentle handling and downstream stability. Once a product relies on a more complex nutritional claim, the tolerance for visible inconsistency or quality drift narrows.



### 1.8 flexibility has become integral

Health-led innovation often enters the market through line extensions, test launches, seasonal flavours, benefit-led variants, limited runs or premium sub-ranges. Even when a single idea succeeds, it tends to pull in adjacent variants quickly. That means more recipe changes, more SKU proliferation and more pressure on changeovers.

Manufacturers therefore need flexibility at two levels: technical flexibility, so equipment can handle different product behaviours and pack formats; and operational flexibility, so teams can switch efficiently without excessive downtime, labour intensity or waste.

### 1.9 hygiene, cleanability and product integrity rise in importance

Function-led products frequently carry ingredients or claims that intensify scrutiny around hygiene, handling and consistency. Soft, sticky or coated products can create build-up and cleaning challenges. Fibre-rich, probiotic or otherwise specialised formulations can increase the importance of disciplined line hygiene and robust washdown regimes.

However, more frequent changeovers mean cleanability itself becomes a commercial issue. Equipment that is difficult to access, slow to clean or prone to product retention imposes a direct tax on flexibility. In a market shaped by faster cycles and narrower windows for inconsistency, hygienic design and ease of maintenance are no longer side benefits.

### 2.0 packaging forms part of the health proposition

1.8 Portion control, smaller servings, targeted snacking occasions and value pressure all feed directly into packaging strategy. Mondelez reports that 69% of global consumers look for portion-controlled snacks, while PwC and AHDB both point to the influence of GLP-1 and cost pressure on smaller, more considered eating occasions.

For manufacturers, this pushes packaging beyond speed alone. Weighing accuracy, reduced giveaway, efficient film use, fast format changeovers and stable product flow become



more important as packs get smaller or more diverse. In effect, the healthier and functional shift asks downstream operations to absorb greater complexity while protecting overall line efficiency.

### 2.1 integration becomes more valuable in a fragmented portfolio

When product mix broadens and pack architecture fragments, it becomes harder to treat each machine or process island in isolation. Recipe changes at one point of the line can affect product flow, weighing accuracy, seasoning performance and bagging stability further downstream. Small inefficiencies start compounding more quickly.

That is why integrated processing and packaging thinking becomes more useful in this market. A healthier and function-focused portfolio tends to reward operations that can align control, monitor variation early, shorten troubleshooting cycles and reduce manual intervention. The value is not only in speed; it is in stability.

## 2.2 the operational test is changing

- » Can the line cope with more sensitive or benefit-led formulations without quality drift?
- » Can teams change recipes and formats quickly enough to keep pace with SKU fragmentation?
- » Can the process protect sensory quality while delivering a stronger nutritional proposition?
- » Can the downstream line support smaller packs and tighter giveaway targets efficiently?
- » Can hygiene, cleanability and maintenance keep pace with more frequent interventions?

## 2.3 implications across industries

The healthier and function-focused shift is often described in market terms: more protein, more fibre, reduced sugar, lower oil, cleaner labels, functional benefits, smaller portions and more controlled indulgence. All of that is true. But from a manufacturing perspective, those shifts change the conditions under which products have to be made, moved and packed.

That change shows up differently in savoury snacks, confectionery and downstream operations. Each segment has its own technical pressures, its own tolerance limits and its own economic trade-offs. A pulse-based extruded snack, a lower-oil potato crisp, a reduced-sugar gummy and a portion-controlled premium pouch may all sit within the same broad better-for-you landscape, but they create very different manufacturing demands. The common factor is not the product itself. It is the increase in difficulty around repeatability.

In a more conventional production environment, the challenge is often to make a known product efficiently and at volume. In a healthier and function-led environment, the challenge becomes more dynamic as formulations change more often and product behaviour becomes less predictable. The line is now being asked to remain stable while more variables are in motion.

The manufacturers best placed to respond are not simply those with the most ambitious innovation pipelines. They are the ones able to convert more complicated ideas into repeatable, efficient and commercially viable output.

## savoury snacks

In savoury snacks, better-for-you snacks are rarely just existing products with a modest nutritional tweak. In many cases, they rely on different raw materials, different moisture characteristics, different expansion behaviour or different flavour systems. That means the line can no longer rely on the same degree of formulation tolerance as before.

One of the central issues is that alternative or enriched formulations do not always behave like conventional snack inputs. Protein-rich ingredients, pulse flours, legume bases and vegetable-led inputs often behave differently from conventional cereal or potato bases. They can respond differently to heat, absorb moisture unevenly, create different surface characteristics and show greater sensitivity to process conditions. That has consequences all the way through preparation, forming, frying or baking, seasoning and final pack-out. A product that looks promising at concept stage can therefore become significantly more difficult to stabilise once production is scaled.

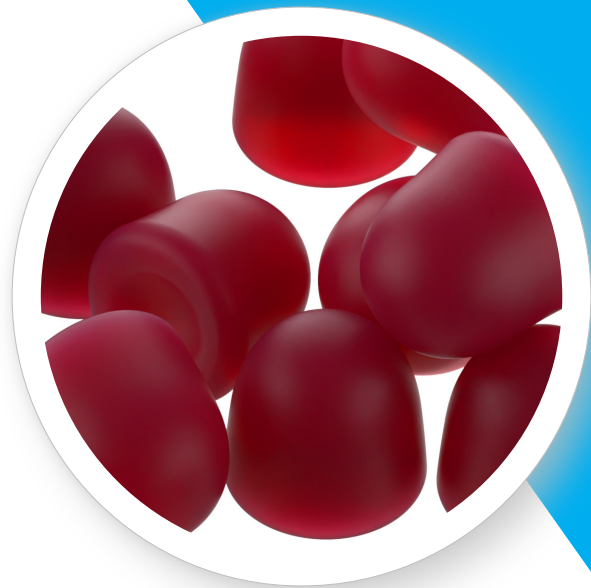


This has particular implications for sensory consistency. Health-led positioning does not remove the expectation that a savoury snack should deliver strong flavour, an appealing appearance and the right textural experience. In many cases, those expectations become harder to satisfy as formulations move away from conventional baselines. Lower-oil or reduced-salt products may rely more heavily on process precision to maintain flavour impact. Alternative ingredients may introduce more variability in colour or surface texture. Fibre-forward or protein-led products may become less forgiving if frying conditions, residence times or final moisture levels are not tightly controlled. What looks like a modest nutritional change can therefore create a chain of operational adjustments throughout the line.

**For manufacturers, the most important consequences tend to fall into four areas:**

- » **Raw material management: ingredient systems may show greater variability in moisture, density, dry matter content, expansion or surface behaviour, making preparation and process stability more important.**
- » **Thermal control: frying, baking or drying conditions may need tighter control to preserve colour, texture and oil uptake within a narrower operating window.**
- » **Seasoning performance: lower-oil or reformulated products may require more precise oil and flavour application to maintain consistency and avoid waste.**
- » **Portfolio complexity: healthier snack innovation is often spread across multiple variants and limited launches, increasing the need for efficient changeovers and more flexible production planning.**

Manufacturers need a process model that is robust enough to absorb more variation without turning each reformulation into a quality or efficiency problem. That generally means closer attention to controllable process windows, more accurate dosing and application systems, stronger oil quality management, and line designs that can accommodate a wider range of recipes without repeated instability. It also means recognising that better-for-you snack production requires an operating strategy built around repeatability.



## **confectionery, gummies and function-led formats**

The healthier and function-focused shift is also reshaping confectionery, though in a different way and from a different starting point. Traditional confectionery remains strongly associated with enjoyment, indulgence, gifting and novelty. Even so, the category is slowly broadening, particularly through gummies, jellies and adjacent formats that are increasingly being used to deliver functional or nutritionally enhanced propositions. These may include reduced sugar products, digestive support claims, vitamin inclusion, botanical ingredients or more overt nutraceutical-style positioning.

What makes this shift operationally significant is that confectionery remains one of the most sensory-dependent categories in food. Consumers may accept new functions or benefits, but they do not suspend their expectations around texture, flavour, appearance or eating quality. A functional gummy is still expected to look good, taste good and deliver a consistent experience. If additional actives, altered sugar systems or more complex product structures create instability, the commercial proposition weakens quickly.

This places more emphasis on precision across the full process. Depositing becomes especially important where products involve active ingredients, layered structures, centre-filled elements or tighter expectations around

fill uniformity. Texture control becomes more critical where formulations have narrower setting windows or behave differently during cooling and demoulding. Finishing and handling also take on greater significance, particularly where products are sticky, delicate or designed to carry a more premium visual standard. In these applications, small variances that might once have been tolerated can begin to affect both product perception and manufacturing performance.

Manufacturers also need to consider the commercial pattern of these products. Function-led confectionery rarely enters the market as one long, stable, standardised run. More often, it appears as a series of premium variants, sub-lines, retailer-specific launches or niche propositions designed to test demand. That creates a different production environment from the one associated with traditional, high-volume sweets. Flexibility becomes more valuable, and so does the ability to maintain control across a wider variety of recipes, structures and changeovers.

**The main manufacturing pressures in this segment typically include:**

- » **Depositing accuracy: tighter tolerance around fill weights, layering and product structure becomes more important where value and product complexity are higher.**
- » **Texture stability: modified sugar systems or added functional ingredients may reduce tolerance during setting, cooling and final handling.**
- » **Hygienic control: wellness-led or premium function-led products increase the importance of easy-clean, controlled production environments.**
- » **Changeover performance: smaller runs and more varied products place greater value on recipe flexibility and reduced disruption between formats.**

For manufacturers, the appropriate response is to think less in terms of individual novelty products and more in terms of a production architecture capable of supporting a broader class of outputs.

That means equipment and workflows that preserve precision while allowing for greater adaptability. It means hygienic design that helps reduce the operational burden of cleaning and product switches. It means handling systems that protect delicate finishes and preserve consistency downstream.

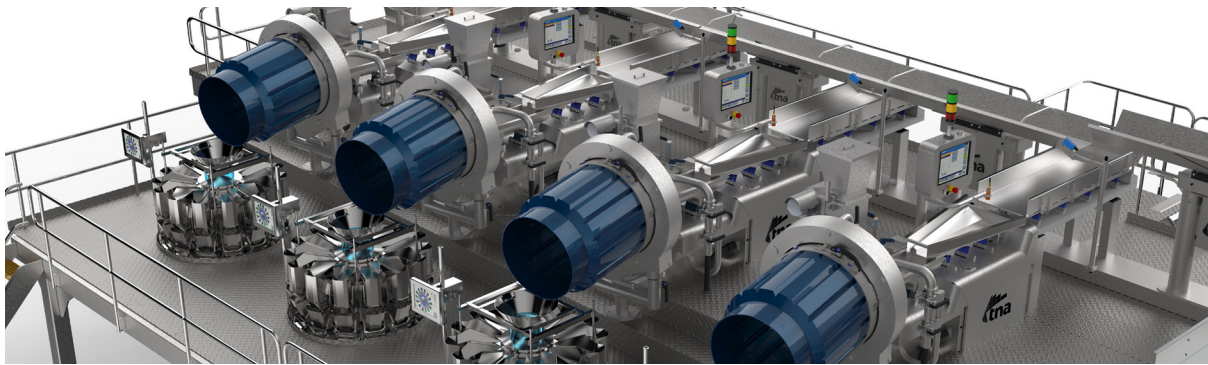
Most importantly, it means treating function-led confectionery not as a one-off exception to conventional production, but as part of a wider shift towards more diverse, more technically demanding portfolios.

## **distribution, weighing, packaging and end-of-line performance**

Downstream operations are often discussed as if they simply need to keep pace with whatever has already been produced upstream. In practice, healthier and function-led portfolios make them far more strategically important than that. Once product diversity increases, and once pack formats begin to shift around portion control, premium positioning or higher mix, distribution, weighing and bagging start to determine whether upstream complexity can be translated into saleable output without excessive waste or disruption.

One reason for this is that packaging architecture is becoming more varied. Smaller bags, tighter target weights, premium small-format packs, multipacks and a broader range of bag styles all place greater demands on downstream systems. High throughput still matters, but so does the ability to maintain control across more frequent changes in product presentation and pack format. A line may be able to run quickly under ideal conditions, yet still perform poorly in commercial terms if product flow is unstable, weight accuracy deteriorates, or repeated interruptions emerge during format changes.

Product characteristics add another layer of difficulty. Healthier and function-focused products may be more fragile, more irregular, more sticky or more heavily coated than conventional outputs. These characteristics can



make them more difficult to transfer, present to weighers and bag consistently without damage or inconsistency. Once that happens, the consequences tend to spread quickly across the downstream line. Poor distribution can lead to uneven feed, which can reduce weighing accuracy, which in can increase giveaway, rejects or stoppages. By the time these issues show up in packed product, the underlying cause is often a loss of control much earlier in the process.

In a more complex production environment, distribution becomes a critical control point for line balance, product presentation and overall downstream stability. Systems that move product gently, evenly and predictably help support accurate weighing and more stable bagging performance. Systems that create build-up, surging or unnecessary handling do the opposite, particularly when products are delicate or portion-sensitive. **For manufacturers, the key operational priorities downstream increasingly include:**

- » **Controlled product flow: ensuring products are presented evenly to weighers and packers without surging, build-up or excessive handling.**
- » **Weight accuracy under tighter tolerances: smaller packs and more premium positioning leave less room for giveaway or inconsistency.**
- » **Format flexibility: more varied pack styles and launch patterns require packaging systems that can adapt without excessive downtime.**
- » **Resilience under product diversity: downstream performance must remain stable even when products differ in size, coating, texture or flow characteristics.**

Manufacturers that invest only in upstream process sophistication, while leaving downstream systems to cope as best they can, may find that the margin benefits of healthier or function-led products are eroded by instability later in the line. In a higher-complexity environment, downstream excellence is not a secondary consideration. It is one of the conditions for profitable growth.

## **why integration matters more in this environment**

As healthier, function-led and portion-conscious products become more common, the manufacturing challenge runs throughout the line. A change in formulation can alter thermal behaviour during processing, affect seasoning performance, change the way product flows through distribution, influence weighing accuracy and create new pressures at packaging. In a simpler production environment, many of these effects can be managed locally, but that approach becomes harder to sustain in a higher-mix, more demanding one.

That is why integrated solutions matter more in this environment. The issue is not simply whether each individual part of the line performs well in isolation, but whether the line behaves as one coordinated system. When distribution, seasoning, weighing and packaging are approached as separate process islands, every change in product, flavour, format or speed creates more scope for instability at the hand-off points between them. When those same stages are designed to work together, the line becomes better able to absorb variation without allowing it to spread.

For healthier and function-focused products, that coordination is particularly important. Many of



the pressures discussed throughout this paper — narrower process windows, tighter sensory expectations, smaller packs, more fragmented portfolios and more frequent changeovers — are exactly the kinds of pressures that expose weak links between stages of production. Product may leave one part of the line in good condition, only to lose value through uneven flow, unstable seasoning, inaccurate weighing or disruptions at pack-off. An integrated approach helps reduce that risk by aligning the movement of product through the full system, so that each stage supports the next rather than compensates for it.

This is the principle behind TNA's integrated system approach. Rather than treating distribution, seasoning and packaging as standalone functions, TNA designs them as part of a unified ecosystem architecture in which product flow, control and performance are managed across the full downstream environment. That matters because in healthier and function-led production, efficiency is shaped not only by machine capability, but by how effectively systems respond as a whole when conditions change. A recipe adjustment, a new pack format or a shift in throughput should not force each stage to be corrected manually in turn. The system should be able to respond in a more coordinated way, with stronger synchronisation

between product handling, seasoning accuracy, weighing stability and packaging performance.

Integrated solutions can help reduce unnecessary handling, support more consistent throughput, shorten changeovers and limit the accumulation of small inefficiencies that erode margin over time. They also help manufacturers manage growing portfolio complexity with greater control, because the line is designed around connected performance rather than isolated output. In a market where healthier innovation is creating more variation across both products and packs, that kind of line-wide coordination is becoming increasingly important.

Seen in that light, integration is not an added extra layered onto an already functioning line. It is part of the manufacturing response to a market that is asking more of every stage of production. That means complete line thinking: building processing, handling, seasoning, weighing and packaging into one connected operating model that helps manufacturers protect quality, maintain efficiency and bring better-for-you products to market with greater confidence.