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The Future of Food: From Sustainability in Foodservice to Tech Innovations in Food Production

Food tech & innovation

EHL Research
EHL Research Team

The EHL Research Team explores how food has evolved into a powerful lever for health, identity, and planetary well-being, with hospitality uniquely positioned to drive this shift through sourcing, menu design, and guest experience. Drawing on new research, they show how foodservice businesses can move from incremental sustainability toward system-level change, reconnecting people with how food is produced while using technology (from advanced cooking to blockchain) to boost transparency, efficiency, and trust.

Food is no longer just about nourishment, but has become a reflection of how we live, what we value, and where we are headed as a society. It is what connects us, sustains us, nourishes us, builds communities, keeps traditions alive and shapes our cultural identity. With so many trends emerging when it comes to gastronomy, nutrition, and well-being, the food industry is constantly transforming and reshaping itself. From health concerns to sustainability initiatives, from technological innovation to cultural identity, the way we produce, prepare, and consume food is undergoing profound changes.

The EHL Food & Well-Being 2025 report explored food as a multidimensional lever for well-being that goes beyond nourishment and engages health, purpose, culture, and planetary integrity. It explored key developments like the rise of the conscious consumer, the union of convenience and personalization, and the notion of co-responsibility across the food ecosystem.

It also showed that the hospitality industry is uniquely positioned to drive this shift, because foodservice touches so many lives every day. Hotels and restaurants can influence sourcing, design more health-conscious menus, promote social dining practices, and foster transparency and innovation in their operations. In doing so, they can support consumers' desire for food that is not just satisfying, but meaningful, regenerative, and aligned with both personal and planetary well-being.

SUSTAINABILITY IN THE FOODSERVICE INDUSTRY

The foodservice industry is playing a particularly pivotal role in this movement, notably by balancing rising sustainability expectations with the need to remain profitable and adaptable. A recent study from EHL, Sustainability Transitions in the Swiss Foodservice: Re-imagining foodservice for a world never imagined (STRest), examines how Swiss foodservice businesses are addressing this challenge by moving beyond incremental improvements toward fundamental reinvention.

Focusing on sustainability transitions and sustainable business model innovations, the project surveyed over 500 restaurants, hotels, caterers, and cafés on practices, barriers, and enablers across sourcing, waste, energy, and digitalization. The full results will be published and distributed globally through EHL's communications channels to industry, policymakers, and the wider public.

The research highlights the significant potential of foodservice businesses to drive systemic change across the food value chain, given their central role in shaping consumer habits, reducing food waste, and influencing sourcing practices. By combining ST theory with sustainable business model innovation (SBMI), the study explores how the sector can move toward more resilient and environmentally responsible practices.

The findings emphasize that small foodservice enterprises can adopt sustainability innovations ranging from waste reduction and circular practices (such as composting and closed-loop supply chains) to digital solutions for energy and resource efficiency. *"Our findings show that sustainability innovations cut environmental impact and strengthen competitiveness, opening new revenue streams, improving efficiency, and winning sustainability-minded customers,"* says EHL Professor and author of the study **Dr. Carlos Martin-Rios**. *"To turn pilot schemes into everyday practice, businesses need three practical enablers: small-ticket finance for kitchen retrofits, procurement rules that reward waste and energy cuts, and supplier agreements for take-back and data-sharing,"* he adds.

For the industry, the key conclusion is clear: sustainability will become an increasingly decisive factor in business success. While the adoption of sustainable practices can be complex for smaller players, their role is vital for achieving broader climate and food system goals. *"The study underscores the need for a balance between immediate operational needs and long-term environmental objectives, positioning sustainability not only as a moral imperative but also as a driver of competitiveness and resilience in the evolving foodservice landscape,"* says Dr. Martin-Rios.

He also emphasizes that food sustainability must move beyond being an elitist concept. *"Sustainability should be widely accessible and affordable, not confined to premium segments,"* he says. *"Real progress happens when mainstream, high-volume operators build it into core operations, not as a niche add-on. When a chain-scale operator improves, impact multiplies across millions of meals. Fine dining, meanwhile, pilots ideas and shapes norms. We need both the scale and the spark."*

RECONNECTING PEOPLE WITH HOW THEIR FOOD IS PRODUCED

Within the sustainability considerations, significant changes are also underway in how it is produced. Over the past four decades, consumers in industrialized countries have become increasingly detached from the origins of what they eat. Most food today is industrially manufactured, with numerous intermediaries standing between production and consumption. While industrialization has brought many benefits, such as improved life expectancy and reliable access to three meals a day, it has also created distance – both physical and psychological – between people and their food. Consequently, many feel a growing need to reconnect with food production. This desire for reconnection also reflects an increasing longing for authenticity, transparency, and more sustainable practices.

The conversation around production also highlights the growing rejection of processed foods: consumers are moving away from overly processed, industrial products and toward healthier, more authentic, cleaner, and sustainable options, as a report from the Global Wellness Institute shows. While the rise of plant-based foods remains important, demand is declining for heavily engineered alternatives packed with additives, sugar, or artificial flavors. Instead, there is increasing interest in functional foods, fermentation, and cooking methods that preserve both nutrients and taste.

With this in mind, the EHL Institute of Nutrition Research & Development has made it its mission to create delicious, sustainable, and nutritious food and beverage products. *"We see that there are a lot of challenges in the current food system, and by leveraging our unique EHL expertise and know-how on gastronomy and business, we are helping to develop products that are healthy, sustainable, and tasty,"* says **Dr. Inès Blal**, EHL Professor and Co-director of the Institute for Nutrition R&D.

Together with industry partners, scientists, experts, and chefs, the institute works to reduce additives, replace artificial ingredients, and use advanced cooking and preservation methods, innovative techniques such as precise-temperature cooking, and processes that extend shelf life without chemical preservatives. *"Our approach really shows how cross-disciplinary research can deliver healthier, more natural products that still meet the needs of today's markets,"* says Dr. Inès Blal.

HOW TECHNOLOGY IS TRANSFORMING FOOD PRODUCTION

Another successful result of cross-disciplinary research is the RoboCake project. Along with scientists from EPFL (the Swiss Federal Institute of Technology in Lausanne) and the Istituto Italiano di Tecnologia (IIT-Italian Institute of Technology), EHL pastry chefs and food scientists have created an edible robotic cake. *"Though it's not a mainstream product, in the future edible robots could be used to deliver medicines in innovative ways to people who have difficulty swallowing or to deliver food to endangered areas,"* explains **Antonin Soussan**, EHL Lecturer and Project Manager of the EHL Institute for Nutrition R&D.

RoboCake is just one – albeit niche – example of how advancements in technology are significantly transforming food production. Another is blockchain, which is proving particularly useful for quality control and traceability. *"Blockchain technology offers enhanced transparency and traceability in the food supply chain, so consumers can trace back the ingredients to their source,"* explains EHL Professor **Dr. Marc Stierand**. By providing immutable records of each transaction, blockchain enables consumers and businesses to verify the origin, movement, and quality of food products in real-time. *"This not only ensures food safety but also builds consumer trust by confirming the authenticity and sustainability of food items,"* says Dr. Stierand, who for many years was a member of the executive board of the Swiss Food and Nutrition Valley.

The study Blockchain-Driven Food Supply Chains: A Systematic Review for Unexplored Opportunities from the University of Otago examined the diverse applications of blockchain technology in the food supply chain and identified further areas of innovation where it could be used in the future, such as food donation and redistribution, supply chain financing, animal welfare, and food waste management. What's more, the industry report State of Blockchain Transformation: Supply Chain from Settle Mint stated that 86% of supply chain leaders believe that the use of blockchain can offer a competitive advantage.

In parallel, innovative cooking technologies like sous-vide are revolutionizing food preparation methods. *"Sous-vide, which involves cooking food in vacuum-sealed bags at precise temperatures, preserves nutrients and enhances flavors,"* Dr. Stierand says. This technique leads to healthier meals with improved taste and texture, aligning with the growing consumer demand for food that is both nutritious and delicious.

EHL IAB-Member **Philipp Mosimann**, Managing Director of Mosimann's Private Dining Club & Global Events, also sees great potential in linking technology with gastronomy: *"Technology plays an increasingly vital and powerful role in shaping the future of food. It's remarkable how it can be applied across the entire journey — from farming, where it helps reduce waste and water use while improving crop yields, to the kitchen, where AI-driven menu planning enables chefs to optimize ingredients and significantly reduce food waste"*. However, Mosimann notes that it should never be used as a replacement for people: *"Technology should never replace the human touch. Food, at its core, is about people — their skill, intuition, and passion. The real opportunity lies in using technology to enhance that craftsmanship, allowing chefs and producers to focus on flavor, experience, and storytelling, while technology quietly manages the logistics and sustainability data behind the scenes."*

As these findings show, huge changes in food systems are already underway, driven by sustainability imperatives, consumer demand for authenticity, and the rise of new technologies. For the hospitality and foodservice industry, this represents both a challenge and an opportunity.

By embracing these shifts the industry can be part of the transformation of not only what we eat, but of how food is sourced, prepared, and experienced. It's a collective journey in which every stakeholder – from farmers to chefs to consumers – plays a vital role in shaping a more sustainable and meaningful future for food.