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## Mega trends driving food innovation and sustainable nutrition

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The food system faces global socio-economic challenges. Governments, NGOs, and consumers request the food industry to deliver beyond safety, sensory appeal, affordability also nutritious, natural and sustainable solutions. This requires new thinking in the design and engineering of packaged food, since conventional design criteria (e. g. taste, price, convenience) often compete with new ones (sustainability, nutrition, naturalness).

To stay relevant one approach for food innovators is to pro-actively anticipate new trends and to gain lead-time for discovery and development in turn. Effective trend forecasting may be of interest, as it delivers a likelihood of early indicators translating into a robust trend. We present a case study of trend forecasting related to alternative sources. This study indicates that alternative proteins might enter mainstream consumption in the near future.

Consequently, technologies need to be developed that allow design and creation of plant based products with high consumer acceptability, which is to date and for certain plant-based products, limited by the sensory unpleasantness. A route cause analysis will be presented, illustrating, which factors create this unpleasantness. Building on this route cause analysis we illustrate a back-engineering approach considering the entire food chain.