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**Unparalleled Portfolio Containing the Most Complete Set of  
Zero-Calorie Natural Sweeteners Including Stevia,  
Enzymatically Modified Stevia, Monk Fruit and Bitter Blockers**

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**The Sugar Problem: Government Mandates and Consumers' Preference**

The global per capita sugar consumption peaked in the late 1990's; however, it has been declining ever since due to an increase in health awareness and the prevalence of diet-related health conditions, such as diabetes. Market trends forecast that North Americans will continue to consume smaller amounts of sugar in their daily diets. Furthermore, according to recent studies, high sugar consumption is associated with heart disease, obesity, type II diabetes, and even cancer. Therefore, dietitians and other health practitioners strongly urge consumers to look for alternatives containing less sugar.

Moreover, government regulations and guidelines, such as a sugar tax in the US and Mexico, and new dietary guidelines limiting the amount of added sugar in foods have made it challenging for food and beverage manufacturers to continue to use the same amounts of sugar in their formulations as they have used in the past (Michail, 2016). In fact, on March 4, 2015, WHO guideline recommended that adults and children reduce their daily intake of free sugars to less than 10% of their total energy intake. A further

reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits (World Health Organization, 2015). Similarly, on January 7, 2016, the US government released new dietary guidelines stating that it puts a limit on sugar: Added sugar should be 10% of daily calorie intake. Americans are eating a 2000-calorie-a-day diet, so 10% of that diet is only 50 grams a day (The Office of Disease Prevention and Health Promotion, 2016).

## **The Rise of Zero-Calorie Natural Sweeteners and Formulation Challenges**

Consumers' willingness to consume artificial sweeteners has been declining due to a general mistrust in synthetic chemical compounds. In fact, consumers are increasingly looking to incorporate natural, plant-based ingredients in their diets. Therefore, the best solution is to replace sugar with zero-calorie natural alternatives, such as stevia and monk fruit extracts.

The movement of the market toward zero-calorie, natural sweeteners has placed immense pressure on marketing, R&D and procurement teams to reformulate to reduce sugar and artificial sweeteners in their products. Replacing sugar in foods, however, has presented a challenge for food and beverage processors, as sugar plays a vital technical and sensory function in food and beverages. Consumers purchasing behavior studies indicate that calorie and healthiness of the food and beverages are important; however, taste is deemed to be the deciding factor.

## **GLG's GoZero<sup>™</sup> Solutions Takes the Stage**

The transition to stevia as a natural zero calorie sweetener has proved challenging due to its known aftertaste issues such as astringency and bitterness. Things are about to change for the better. GLG is pleased to introduce its newest product line to global food and beverage companies – GoZero<sup>™</sup> Solutions to address all these challenges with going zero. At GLG Life Tech, we believe that nature has a remedy for any taste and functional issues associated with the use natural ingredients in food and beverages. Over the past 15 years, the team of experienced scientist at GLG Life Tech have developed an in-depth knowledge of our products and their interaction in a wide array of food applications. Our constant stream

of R&D formulation projects have allowed us to build a great reference library and to understand the use of zero-calorie natural sweeteners in a wide variety of food and beverage applications. Therefore, we provide a versatile natural product portfolio and solutions that are effective in many different food and beverage matrices.

## **Sugar Reduction Challenges Solved with the Launch of GLG's GoZero™ Solutions**

GoZero Solutions™ is a major breakthrough in R&D that is redefining how the industry is able to use natural sweetener alternatives that combine both monk fruit and stevia. GLG's GoZero™ Solutions offer:

1. Largest portfolio of the most complete set of zero-calorie, natural sweeteners including stevia, enzymatically modified stevia, monk fruit and bitter blockers
2. Better tasting stevia and monk fruit with ClearTaste™ natural bitter blocker
3. Custom formulations for customers
4. Fast prototyping of reduced or zero calorie formulations for R&D groups
5. Superior taste and flavor profile tailored to specific food matrices
6. Fast response and support from our experienced support team
7. Cost effective solutions
8. Clean labels
9. Reduction in use of sugar while maintaining taste
10. Removal of artificial sweeteners from the formulation
11. Halal, Kosher, Non-GMO, and natural solutions
12. Organic and conventional format

## Why Partner with GLG?

GoZero™ Solutions is the result of over 15 years' hard work of more than 60 agricultural scientists, product innovation and food application specialists, and food engineers. This concerted effort has allowed us to formulate a diverse product portfolio applicable to a wide range of food, beverage, and dietary supplement products that are cost-effective and superior in taste, flavor, and quality.

Our customers are able to work closely with our expert team, who provide them with insights throughout the process and keep them informed on the latest developments in the market. Furthermore, GoZero™ Solutions provides customized natural solutions that can be launched globally and meet the consumer demands and regulations of numerous markets. In addition, the customer benefits from our knowledge of the stevia and monk fruit market trends to position their products in the right markets and to launch marketing campaigns that allow them to increase marketshare and revenue in the growing natural food and beverage market. Last but not least, we provide our customers with well established and recent insights to communicate the health benefits of our zero-calorie, natural sweeteners to the end consumer.



**GLG**  
LEADING LIFE TECHNOLOGIES.  
BETTER STEVIA, MONK FRUIT AND MORE.

## References

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