

Reducing the cost of alcohol production



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Our client is a multinational beverage company interested in identifying and supporting novel approaches to reduce the production costs of alcohol without having a negative sensory impact on the final product.

Opportunity

Depending on the maturity of solution, the challenge owner is willing to consider the following commercial arrangements:

- Joint venture;
- Equity investment; and
- Outright IP acquisition.

Solution maturity

The following are of interest:

- Partial treatment of sugar feed stock (i.e. selective removal of flavour impacting compounds from the raw sugar);
- Cheaper feedstock (i.e. raw sugar or sugar beet);
- New fermentation procedures (i.e. new yeast strains producing more neutral flavour profiles); and
- Treatment of liquor post fermentation (i.e. removal of flavour impacting compounds from the liquor)

Timelines

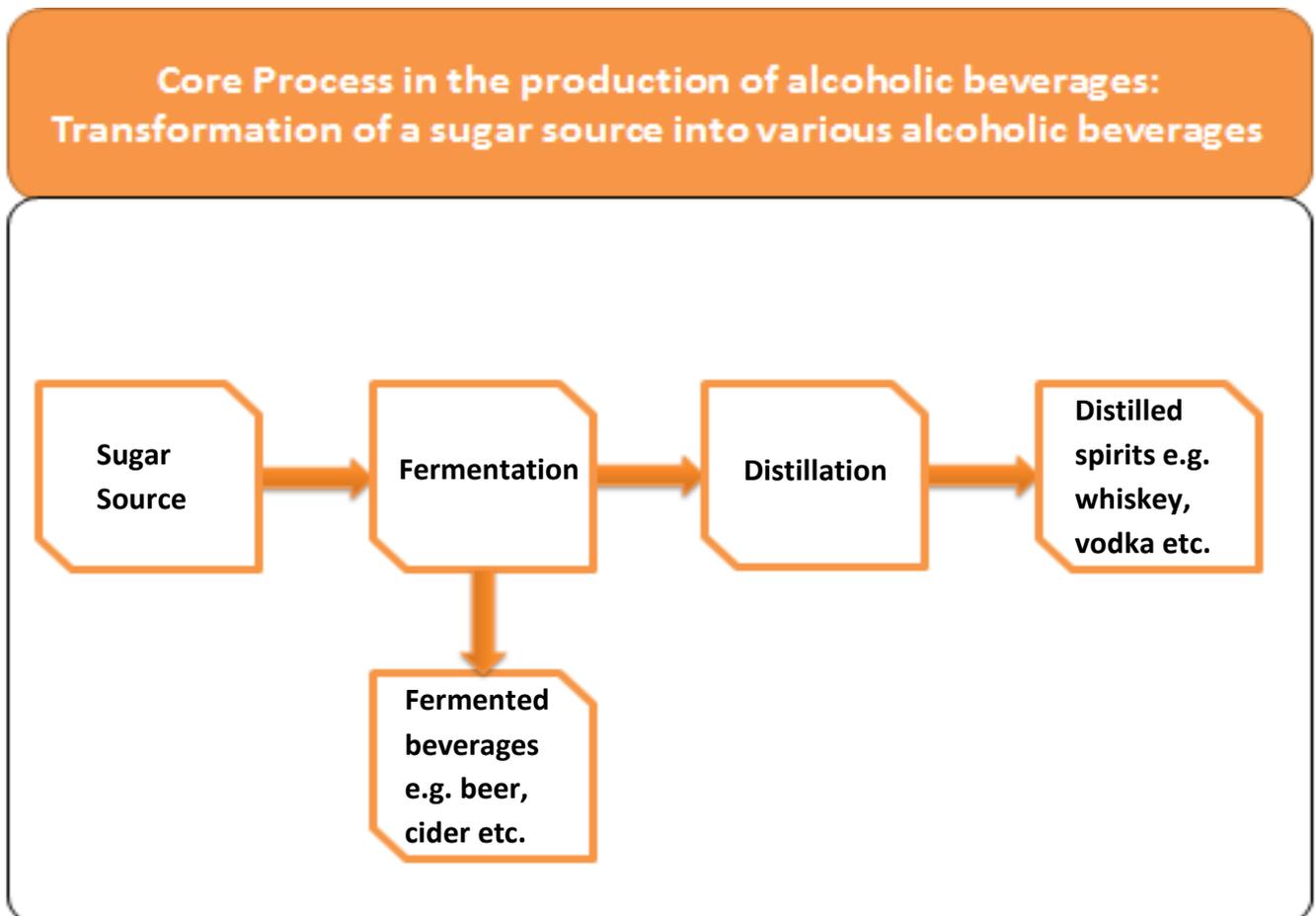


Context

Throughout history the consumption of alcohol has always been a favourite pass time and has been ingrained in the bedrock of many cultures, ranging from the Scottish whiskeys to the Ethiopian honey wines and beyond.

In 2014 the global spirit market grew by only 1.7 % compared to the 8.9 % and 7.4 % growth observed in 2010 and 2011 respectively. This decline in growth rate is stimulating companies to minimise production cost through innovative new methods or risk becoming stagnant.

The core process in the production of alcoholic beverages is simple, as shown generically in Graphic 1:



Different varieties of spirits and fermented beverages are produced via this simple process by changing one or more of the process parameters. The main parameters are:

- Sugar source (i.e. grapes vs. malted barley)
- Fermentation conditions (i.e. temperature and yeast strains)

- Distillation type (i.e. Pot vs column stills)
- Product treatment (i.e. Barrel aging or flavour infusion)

One attractive cost saving option is to move away from refined sugar (406\$/ metric ton) towards raw sugar (316\$/metric ton) as there is a substantial difference in price. The production of refined sugar can be broken into two major processes, firstly the production of raw sugar from sugarcane and secondly the refinement of raw sugar as seen in Appendix A.

Challenge

The challenge owner wishes to produce a sensory neutral non-distilled base alcohol for further product development that is cheaper than current production costs while using refined cane sugar.

Submissions are therefore invited that preferably have the following characteristics, and achieve the following outcomes:

- Produce a **sensory neutral** alcohol;
- Use a **cheap alternative** sugar source (e.g. raw vs. refined sugar);
- Ensure that the solution is **feasible** on a commercial level; and
- Demonstrate a **viable and scalable** revenue model.

The above list is not exhaustive, and additional value propositions – determined by you as the solution provider – are absolutely encouraged.

Your submission should include the following:

1. Context

A description of how you perceive the impact such a shift would have on the characteristics of the alcohol (e.g. through a detailed description, schematic or infographic);

2. Value Proposition

How your solution creates a more sensory neutral alcohol (e.g. through the use of a value proposition canvas, or mock demonstrations of end solutions);

3. Technology Solution

The underlying mechanics of how your proposed solution will achieve the value proposition defined earlier (e.g. sugar source pre-treatment);

4. Business and revenue model

If appropriate, an associated business and revenue model that demonstrates the financial viability of the value and technology models defined earlier. If you are already operating as an organisation, scaling and revenue projections; and

5. Team experience

The overall capabilities and experience of the team in delivering the solution.

There is no formal template that needs to be used to respond to this challenge. However, solutions that do not include appropriate information in regards to the evaluation criteria above may be disqualified.

Evaluation Criteria

The challenge owner will evaluate proposals, and select a shortlist of candidates with whom to engage further. Criteria include:

- The insight demonstrated of the alcohol producing process through either experience or research;
- The ability of the solution to deliver high quality alcohol (e.g. meet the desired characteristics discussed in this challenge brief, and / or any others identified by you);
- Proof of concept by means of tasting panel or analytical methods if possible (e.g. GCMS)
- A well-structured and communicated value proposition (e.g. through a value proposition canvas, wireframes, or other approach as desired.)
- Technical feasibility of the proposed solution;
- Communication and explanation of any associated proprietary or 3rd party intellectual property aspects involved in the proposal; and
- The capability and experience of the respondent and associated track record.

Challenge timelines

The timelines for this challenge are shown below.

Stage	Description	Start Date	End Date
1	Challenge go-live date	16 May 2016	n/a
2	Challenge open period	16 May 2016	30 June 2016
3	Evaluation period	1 July 2016	8 July 2016
4	Feedback to respondents	8 July 2016	n/a
5	Shortlist candidate discussions	> 8 July 2016	-

Submission process

To submit a proposal for this challenge, please visit:

www.solexinnovation.com

For any enquiries, please contact submissions@solexinnovation.com or +27 (0)60 967 3411.

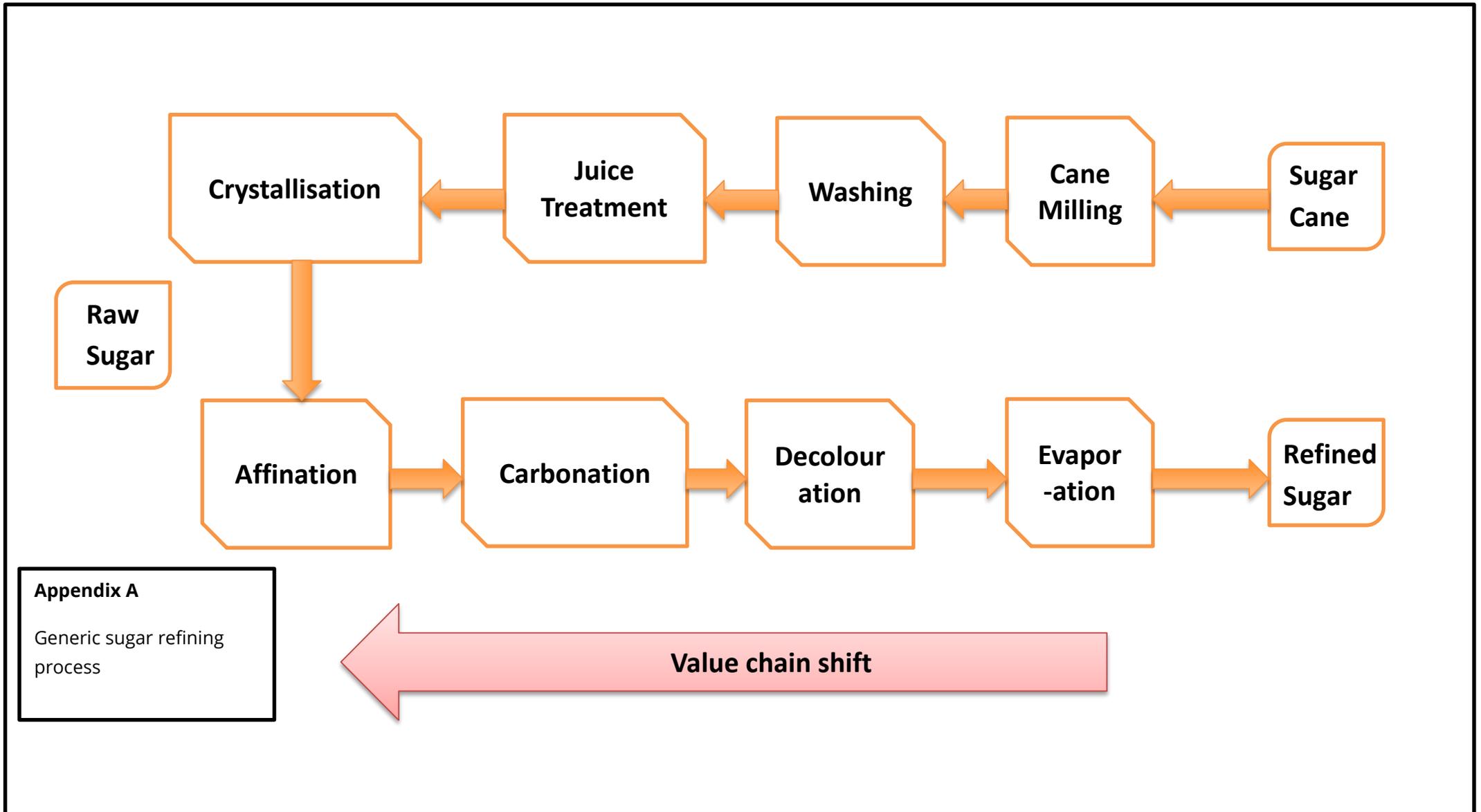
Protection of IP

The intention of this challenge is to identify promising new business concepts and support their development and implementation.

It is important that no confidential intellectual property or information is disclosed through this process. This may include pre-existing software, processes, systems or market research that is not publicly available.

By submitting a response, you represent that your response does not, and will not be deemed to, contain any confidential information of any kind whatsoever. You also confirm that you either own or have the rights to the IP you are putting forward. RIIS and its project partners will not be held liable for the loss of any intellectual property.

In the event that your solution is selected for further development, the appropriate intellectual property protections will be put in place to support both yourself and the challenge owner.



Appendix A

Generic sugar refining process