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Opportunities for Collaboration between the Netherlands and Canada in the Food Processing Sector

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1.0 EXECUTIVE SUMMARY

Introduction

This report is aimed to identify opportunities for Dutch companies in the Canadian Food and Beverage Processing sector. The impetus to better understand the Food and Beverage Processing sector in Canada is the result of the Netherlands' recognition of the Canadian Government's intent to position Canada as a global leader in food. As the second largest manufacturing industry, Canada's Food and Beverage supply chain, from 'farm to table', encompasses those that supply and grow the food, to primary and secondary processors through to retailer and food service sectors that ensure consumers have access to food for their tables. This supply network is estimated to represent 2.3 million direct and indirect jobs (2016) and the food industry is valued at $98.1 billion (CAD). Positive market trends indicate that global food demand continues to rise. Canada's reputation of safety, quality and trustworthiness is regarded as a desirable source both to domestic and world markets. However, in order to stay competitive, Canada's reliance on labour and lag to adopt automation is challenging their position to address growth effectively.

Understanding that the Netherlands' food industry ($82.8 billion) has a similar financial valuation as Canada, as identified above, yet this smaller country uses half the number of employees, much due to the integration of automation systems, innovation and international trade. Given this, there may be benefits in establishing a platform for collaboration between the Dutch and Canada in order to leverage the infrastructure, learnings and adoption of automation that the Dutch have effectively implemented.

A key area of the Netherlands' continued success is the 'Golden Triangle' approach to collaboration. The 'Golden Triangle' is a concept describing the productive relationships between business, government and knowledge institutes (i.e. academia) to stimulate innovation, utilizing an industry-focused approach. Due to cultural differences, this approach may not be easily adapted into Canada but rather key learnings taken and adapted from the Netherlands' experience.

Further, evidence from a 2014 KPMG report *"Technology Readiness Assessment of Automation and Robotics in the Food and Beverage Processing Sector in Canada"*, highlighted the lag in adoption of automation by Canada compared to the USA and Europe in several areas for Food and Beverage Processors. The Netherlands recognize that in order to remain competitive on a global scale, Canada will need to modernize and upscale its automation levels. As a global food powerhouse, regarding innovation, integration and automation, the Netherlands viewed Canada's need to modernize as an opportunity to share their experience and expertise in these areas.

In order to better understand this opportunity, this qualitative market study was commissioned by the Agricultural Department of the Embassy of the Kingdom of the Netherlands in Washington, D.C. as an initial stage to develop a strategic understanding of Canadian small to medium sized (SME) Food and Beverage Processors, particularly as it relates to innovation and automation.

Research Partners

Prior to engaging directly with Food and Beverage Processors, it was important to develop an understanding of the government and academic Research Partners who have been involved in discussions leading up to this project. This would help to clarify insights into the Canadian Food and Beverage sector from their point of view.

From the discussion with the Research Partners, it was confirmed that findings from reference studies such as the 2014 KPMG report, as previously mentioned, are consistent with their views regarding the challenges of Canada's SME Food and Beverage Processors. This includes capacity limitations given the nature of batch processing which strains efficiencies, lack of labour availability, return on investment required for capital expenditures, a somewhat reserved culture with regards to sharing as well as more newly formed infrastructure to support innovation and adoption of automation. Also, given the qualitative nature of this market study, the information from the Research Partners assisted in identifying participants to interview and refinement of the discussion guide for the interviews.

Food and Beverage Processors

As SMEs represent 97% of Canadian companies, this size of company was identified as the target participant for this market study. Efforts were made to ensure diversity of the Canadian Food and Beverage Processing industry, both geographically and by sector. A contact list of approximately 30 companies included a balanced representation of 8 provinces and all 8 of the top food processing sectors in Canada[1]. The key findings are a result of one-on-one interviews with high ranking employees, including owners and senior managers, of 12 companies that agreed to participate in the market study.

[1] According to Agriculture and Agri-Food Canada http://www.agr.gc.ca/eng/industry-markets-and-trade/canadian-agri-food-sector-intelligence/processed-food-and-beverages/overview-of-the-food-and-beverage-processing-industry/?id=1174563085690

Key Research Findings

Challenges for the Canadian Sector

A critical aspect of this research was to obtain further insight into recognized challenges faced by Canadian processors. Challenges to the adoption of technologies and automation include, but are not limited to: partial automation, skilled labour, culture, and collaboration.

Partial Automation

With regards to automation, participants identified that they incorporate automation and new technologies among older, manual operations. Discussions with the market study participants attributed this less due to the availability and cost of labour and more to the hands-on nature of batch processing and the need for flexibility. That is, they would incorporate automation where possible but do not want to sacrifice quality (i.e. the artisanal and customized aspect) that their processing operation fulfills in the marketplace.

> *"It is important to find the equipment that is the right fit for our operation and fits with our ROI requirements. A considerable amount of time is invested in order to develop these projects from the time of approval to implementation, everything needs to fit."*
>
> *- Redpath Sugar*

Skilled Labour

Skilled labour is clearly an issue for the companies interviewed with 92% stating that labour is the most pressing issue to their operations. One respondent stated the labour shortage was at a "crisis" level. Due to this shortage, the participants reported that they rely on temporary, as well as foreign, labour to supplement their operations. This is a costly short-term approach which also led to their identification of a lack of skilled training programs. Companies in this study reported that this requires costly internal training programs, that are specific to the processing sector, to be established.

> *"Formal training for meat cutting and industrial butchery do not currently exist in Canada. Finding skilled labour is increasingly difficult so we must train our employees ourselves."*
>
> *- Golden Valley Farms*

In Canada, the Food Processors Skills Canada (FPSC) is a non-profit organization the provides affordable training and educational tools targeted to the Food Processing sector. They establish standards and competency frameworks to cultivate the knowledge and abilities to meet the demands of the food industry. This industry-driven organization is supported by the Food and Beverage Processors across Canada and they have associate members which include academic institutions, associations and other suppliers to this industry. A strategic discussion regarding key knowledge gaps in Canada may provide the Netherlands with further insight into opportunities for collaboration.

Culture

Practicality reigns when it comes to making operational changes according to the SMEs participating in the market study. That is, there is a real need for any adoption of automation to have a reasonable return on investment (ROI), often less than one (1) year, and not interfere with the flexibility to address

operational, customer and market needs. This includes the impact of automation that might hamper quality with regards to customized, or artisanal products as well as finding the 'right sized' equipment for their operations. Given that automation often addresses the needs of larger volume-oriented commodity-based processors rather than unique, customized processes, this creates a challenge for SMEs. Also, assessable maintenance of equipment is key for Canadian companies. The need for flexibility and implementable solutions is greater than the need for increased capacity or new innovation.

In any case, it would be false to say that processors are complacent in regards to improving their operations with 83% of participants indicating there is an opportunity for automation. Every respondent had implemented some level of solution to minimize the impact of the challenges faced. Several participants indicated a dedication to continual improvement to both their facility and processes.

> *"We have done many changes over the last few years to improve efficiency among our group of companies. That is, some are better at portioning or marinating. Therefore, we are moving as much of the large volume business to these facilities rather than having multiple facilities do similar functions. This allows for larger runs (comparatively) and improves efficiency overall. We have also standardized equipment, such as portion control equipment, across the country so we are dealing with one supplier in a certain segment of the business and finding some economies of scale."*
>
> - *Intercity Packers*

Collaboration

Food and Beverage Processors participating in this market study are open to both government (58%) and academic (50%) collaborations in particular with regards to driving innovation in the industry and funding support to acquire and implement automation. However, some participants are skeptical of these collaborations based on past experiences. This included results that were not as applicable or actionable and often had a lag time which occurred to obtain funding, generate research and implement. Key decision makers of SMEs in this market study are focused heavily on running their own operation and require actionable results in a timely manner.

It should be noted that Research Partners interviewed prior to connecting with processors were aware of the challenges faced by SMEs regarding collaboration. Challenges such as limited resources and time, as well as a proprietary mindset across the industry, requires that Research Partners focus is aligned with the priorities and needs of processors. **Focusing on a company-specific, problem-driven solution rather than trying to address the theoretical needs of an entire sector, may require a more business to business approach.**

The importance of collaboration was expressed by all Research Partners. They recognized that the Netherlands' 'Golden Triangle' of focusing on industry-driven issues and aligning government and academia to support solutions is an attractive goal for Canada. It was felt that current cultural differences towards working collaboratively and established frameworks would challenge adopting this model but there was agreement that ongoing discussions and learnings would be beneficial.

> *"The Netherlands' Golden Triangle collaboration is driven by the demands of the industry and then it is the government and academia's responsibility to support these needs."*
>
> - *FME*

Common Solutions

Continuous improvement is also a common solution being implemented within the industry. Through improving processes and operational flow, as well as the physical plant, processors are reducing the impact of common challenges with an evidence-based approach. These continual improvements may, in fact, be through the purchase of a new piece of equipment or technology, but they may also be changes to logistics, the flow of materials, or the standard operating procedures of the operation. Finding the right fit equipment, and ultimately the operational solution is a critical factor in the decision.

Twenty-five percent (25%) of participants indicated they have implemented automation or new technologies as a solution, and 83% indicated that there may be an opportunity for technology in the future. Software solutions such as enterprise resource planning (ERP) systems, inventory management tools, and supply chain logistics were also implemented to reduce the impact of common challenges. In all cases, SMEs are often challenged to identify the process improvements, source options to address their needs that justify the ROI and implement the option internally given the size and resources available in their operations.

Sub-Sector Opportunities

This market study did not identify any particular processing sector that would be more inclined to collaborate or utilize the Netherlands over any other. Rather, since Canadian SME Food and Beverage Processors overall rely heavily on batch processing and flexibility in order to be successful, each operation is unique and faces different challenges. That is, there are no solutions which are applicable to, nor meet the need of, all members of a sector as reported by the market study respondents. What this market study did confirm from participants is that the industry is diverse and should not be addressed as 'one' sector. Acknowledging this diversity by approaching individual companies is more effective than approaching sub-sectors as a whole. Within this approach a focus on flexibility and customization is key. **One size does not fit all.**

Participants commented on opportunities existing in connecting directly with processors to assess the needs of their operation and provide specific solutions to solve these needs. In Canada, Industry Associations are in tune with operational challenges of their membership and are a useful resource to become aware of critical priorities and can assist with problem-solving.

> *"We are open to any options presented to us as long as the ROI is favourable and the equipment does not take away from our hand-made appearance."*
>
> - *Arbutus Ridge Farms*

Connecting with Canadian Processors

The SMEs in this market study do not rely solely on one resource to gain knowledge and stay informed on available technology for the industry. Participants indicated that they will often use a combination of resources such as trade shows, industry publications, and online research to stay informed on the latest technology and trends and to educate themselves regarding options. A list of industry events, publications, and websites can be found in **Appendix A – Industry Events and Publications**.

Many participants relied on their own industry networks and sector specific associations for recommendations and proven solutions emphasizing the need to build relationships and a clear understanding of their operations.

A key factor of success with regards to purchasing automation, and ultimately any collaboration, that was strongly expressed by several of the participants, is the need for local technical support and a **regional presence** of the manufacturer for any automation and technology that would be integrated into their operation. This includes building a relationship with the processor to understand and make recommendations regarding their needs, ease of purchase and implementation, meet Canadian standards, as well as on-going maintenance and timely ability to address repairs.

> *"Ensuring equipment is running properly is critical to our operation. We would definitely pay a premium on equipment to be confident that any issues that arise with our equipment would be dealt with quickly. Waiting weeks to have equipment serviced is not an option."*
>
> *- Sierra Custom Foods*

A regional presence may be established either directly or through a regional broker or distributor partnership representing the Netherland-based manufacturers. This regional presence would give processors confidence that service and skilled support for automation and equipment would be available quickly and reliably. This partnership, perhaps even collaboratively shared among several Dutch manufacturers, would support the success of adoption of Dutch automation in Canada.

Visibility and Relationship Improvement

Tradeshow presence and advertising in industry publications can help build awareness of technologies within the Food and Beverage sector. However, as mentioned, developing a regional presence is critical to equipment manufacturers' success in Canada. That is, the ability to install and service equipment and ensure technical requirements and documentation to meet Canadian standards is important to SMEs.

Participants indicated that they prefer to buy from companies they are familiar with and that are known within the industry. In Canada, there is sector specific infrastructure in place as represented by Industry Associations. These associations offer a collaborative voice to the sectors which focus on government advocacy, lobbying on behalf of the members for regulatory and policy change and staying on top of key issues facing the sector to help drive solutions and change. Through building a presence in Canada and engaging with Industry Associations, Dutch manufacturers can become a known resource for SMEs in the Food and Beverage sector to create and build partnerships.

> *"Industry Associations are aware of the challenges and realities within the industry and can provide solutions that account for them. Member funded, and member focused Industry Associations are the best way to support the needs of the industry."*
>
> *- Leadbetter Foods*

The 2014 KPMG report indicated that the infrastructure to support automation and robotics is not in place in Canada to the same degree as it is in Europe. There is an opportunity to utilize the Dutch "Golden Triangle" model for government, academia, and industry to work together to establish this

infrastructure in Canada to better support automation and robotics within the food and beverage sector.

Recommendations

Based on information gathered from previously conducted research discussions with academic and government Research Partners, and this qualitative market study which provided direct industry engagement, it is clear that Canadian Food and Beverage Processors have not adopted automation and technology to the same degree as European counterparts. Despite this lag in adoption, Research Partners and participating processors acknowledge an opportunity for automation and new technology within the Food and Beverage sector.

In order to take advantage of this opportunity, Dutch equipment manufacturers must engage directly with Food and Beverage Processors. It is recommended that this engagement **be specific and practical to the needs of individual operations** in order to determine the challenges faced by operators. A business to business approach is the most palatable for operators which can then allow Dutch manufacturers to provide, or develop, customized solutions to address these challenges.

In addition, Industry Associations are favourably viewed and specialized within processor sectors. Developing connections with these organizations would be valuable, providing their networks and insight into the needs of its membership and the ability to facilitate direct connection to processors.

In order to build long-term success, a North American presence must be established. This can be accomplished by first leveraging Research Partner connections to focus on regional needs, as well as establishing a partnership with a broker/distributor who will represent, and possibly provide service for, Dutch manufacturers in Canada. As the Dutch presence continues to grow, direct investment into Canada by Dutch manufacturers can further support processor confidence in equipment as well as the ability to install and service.

Strategic Action Plan

Phase 1 – Building Connections and Information Sharing (1-3 Months)

- Leverage Research Partners and develop connections with Industry Associations, applicable to Dutch expertise
  - Utilize these connections to solidify priorities and identify problem areas in processor operations
- Initiate communications with Canadian Food and Beverage Processors through Industry Associations membership, trade shows, industry-focused communication materials inviting interest and knowledge sharing based on the Netherlands successes in this industry

Phase 2 – Developing Presence and Improving Visibility (3-6 Months)

- Using the problem areas identified in Phase 1, engage directly with processors to determine the ‘right sized’ solutions for their operations. Structural presence and structural communications are needed.

- Engage **business to business** support to identify process flow solutions, including process and yield improvement, industrial engineers and other experts to assess, identify and link strategic Dutch companies to provide solutions
- If solutions do not currently exist, determine value in developing solutions

- Develop opportunities for practical-based, company-specific experiences such as missions, webinars and information sessions to allow Canadian companies to explore opportunities, create relationships and identify collaborative alliances. This includes 'matchmaking' on an individual level which could be a role that Industry Associations plan in pinpointing specific companies that are in need of solutions
- Develop a partnership with a regional broker/distributor who could represent Dutch manufacturers in Canada to allow for a physical presence to make connections. This partnership should include the ability to reliably install and service equipment
  - A distributor may represent multiple Dutch manufactures with the objective of finding the best solution for processors
  - Equipment companies in Canada have utilized both in-house demonstration spaces and test sites to demonstrate equipment and allow for buyers to explore and test equipment
  - Academic institutes have also allowed companies to test and explore new technologies within academic test sites which help students to become familiar with suppliers

Phase 3 – Increased Presence and Processor Engagement (6 months and beyond)

- As the success of Dutch manufacturers grows in Canada, it may be advantageous for these companies to develop a direct physical presence in North American
  - This may be by individual manufacturers or a strategic collaboration of companies
- A strategic problem and solution driven approach is most preferable when engaging with SMEs. This may take time to build relationships and valued networks among Canadian Food and Beverage Processors. A long-term mechanism for occasional engagement will allow Dutch companies to continue to be on the radar of Canadian companies and in the ready to assist
- Regional Partners such as government, academia, and Industry Association should continue to be used as their connection directly to manufactures is valuable. Utilizing the Netherlands' successful models, such as the 'Golden Triangle' of collaborative, industry-based efforts should be carefully considered to develop positive change in Canada.

2.0 MARKET STUDY OBJECTIVE AND APPROACH

2.1 Objective

To identify the opportunities for Dutch companies in the Canadian Food and Beverage Processing Sector.

2.2 Approach

To allow for a strategic, long-term plan for engaging with Canadian Food and Beverage Processors, and to effectively utilize initial funding for information gathering, a qualitative approach was taken for the market study. This will help to validate understanding gained from past research and help focus on priorities common to Canadian SMEs in the Food and Beverage Processing sector. In-depth interviews are the mechanism to allow for rich discussion and allow for exploration to better understand the key challenges and needs of the participating SMEs.

In addition, discussions with Research Partners, in both the Netherlands and Canada, helped to shape the direction of this study. To gain insight from their unique vantage points, discussions were held to capture their views and help focus interview questions as well as identify possible SME Food and Beverage Processors that may participate in the market study that would offer astute perspective given their operational experience.

3.0 METHODOLOGY

The method chosen for this market study was qualitative in nature given the timeline and resources available. That is, as a strategic initial step to understanding and confirming existing research, a carefully selected focus group of Canadian-based Food and Beverage Processors were interviewed one-on-one to gather specific information to address the market study objectives and allow for elaboration on the part of the participants.

The market study included detailed discussions with Netherlands and Canadian Research Partners and targeted Canadian-based small and medium size enterprise (SME) Food and Beverage Processors

Prior to engaging any discussions with Research Partners or Food and Beverage Processors, secondary research to understand the Dutch equipment and technologies offerings to the food and beverage processing sector was conducted. This included the following areas of focus:

- Sustainability
- Global Competitiveness
- Innovation
- Collaboration
- Automation and Robotics

A summary of the preliminary investigation is provided in **Appendix B – Preliminary Investigation**.

3.1 Research Partner Engagement

Existing Research Partner contacts were provided and direction given with regards to applicable discussions to contribute to this study. Research Partners from both government and academia were asked to provide their organization's focus as well as their views on the Canadian Food and Beverage Processing sector and any thoughts on related Dutch opportunities. Research Partners were able to provide a unique viewpoint of the food and beverage industry in Canada, as well as an understanding of Dutch culture and innovations.

A complete list of Research Partners is provided in **Appendix C – Research Partners**. The Research Partners contacted for discussions included:

The Netherlands

- Branch organization from the Dutch food processing sector: FME GMV

Canada

- Agriculture and Agri-Food Canada (AAFC)
- University of Guelph, Research Innovations Office
- Ontario Agri-Food Technologies (OAFT)
- Ministry of Agriculture, Food and Rural Affairs (OMAFRA)

In addition, it was recommended that the following organizations were included in discussions to obtain their point of view:

- Bioscience in New Brunswick (BIO NB)
- National Research Council of Canada/Industrial Research Assistance Program

Discussion with Research Partners focused on their understanding of food and beverage SMEs in Canada in the context of their expertise, be that academic, government or industry representation. The feedback gained from these discussions allowed for greater understanding of these organizations point of view and used to refine the discussion guide used in processor interviews. Research Partners also identified possible participating SMEs to be interviewed for the market study.

3.2 Research Partner Key Findings

To provide an understanding of the Research Partners' point of view with regards to the needs of the SME Food and Beverage Processors in Canada feedback was requested in the following areas:

- Operational strengths and challenges for SMEs
- Technologies and equipment
- Culture and collaboration

3.2.1 Operational Strengths and Challenges

Research Partners who provided feedback for this project are aware of the common challenges facing food and beverage SMEs in Canada, particularly as it relates to collaboration and new technologies. The size and scope of Canada's processing sector allows it to fulfill niche market opportunities whereas the United States (US) is more volume driven, having greater capacity.

Automation is typically geared to driving efficiencies in large, quick moving production lines that are less customized and more standardized in nature. This results in more commodity-based products versus unique niche, customized or artisanal products. For Canada, this results in more batch processing which requires flexibility and the ability to customize quickly and efficiently. This somewhat challenges the fixed automation solutions that typically are most efficient with very little adjustments to processing lines and are scaled to drive economies of scale.

The scale of SMEs also requires key decision makers to be **focused on daily production** aspects to ensure variations in production and packaging are addressing specific customer needs while remaining profitable. **Given the low margins of this industry, SMEs focus primarily on improving efficiencies within their operation that are practical and quick to implement, and secondarily on new equipment, technologies and innovation**.

> *"Very low margins in the food and beverage industry have resulted in SMEs focusing on maximizing efficiencies in existing operations rather than purchasing new equipment"*
>
> - *University of Guelph, Research Innovation Centre*

SMEs often lack the time and resources to participate in collaborations, as well as researching new innovations or technologies despite the opportunities and efficiencies that this approach may provide. The Canadian market and nature of batch processing create a requirement for manual labour which is difficult to source and is costly.

> *"Canadian SMEs struggle with both the cost and availability of skilled and unskilled labour"*
>
> - *Ontario Ministry of Agriculture, Food, and Rural Affairs*

3.2.2 Technologies and Equipment

Research partners were asked where they saw opportunities for Dutch manufacturers in the Canadian Food and Beverage Sector. Specific opportunity areas included packaging automation as well as inline controls to improve yield. However, multiple Research Partners indicated a need for a **processor specific, problem-driven approach**. That is, identifying the unique needs of processors specifically as it relates to their operation. From there, equipment or technology solutions can be applied to improve existing processes or eliminate known challenges.

> *"Manufacturers should look for ways for Canadian processors to adopt, adapt, or integrate technologies into their operations. This can be done by identifying problem areas within operations and providing and/or modifying Dutch solutions to solve these problems"*
>
> - *Ontario Agri-Food Technologies*

3.2.3 Culture and Collaboration

Research Partners were also aware of the frustrations SMEs face when collaborating with government and academia. The primary frustrations are caused by conflicting viewpoints regarding timing and focus. The lag in research and funding approvals is often too long to meet the needs of SMEs. Disputes over intellectual property may also occur as a result of these collaborations, and as a whole, the food and beverage sector is very proprietary in Canada.

Discussions identified that the Dutch are strong collaborators and this was a result of their background as well as efforts made by government and academic institutions to focus on supporting industry-driven projects and policy developed to allow for long-term, strategic gains in various areas. This was referred to and identified in the 'Golden Triangle' approach to collaboration. Research Partners commented that Canada should learn from this viewpoint and experience and understand what aspects could be adopted in Canada to support collaboration.

In 2011 the Dutch government introduced the 'top sector' policy as the new Research and Development strategy. Nine key sectors were identified with strong market positions, among which was agriculture and food. The top sector policy is promoting closer cooperation between knowledge institutes, public authorities and business. Each top sector has created one or more top consortia for knowledge and innovation (TKI) where entrepreneurs and researchers work together in innovative products and concepts.[2]

Additional details regarding the 'Golden Triangle' and collaboration in the Netherlands can be found in **Appendix B – Preliminary Investigation**.

3.3 Research Partner Recommended Focus

Based on their understanding of SMEs in the food and beverage sector, Research Partners recommended the following approach to drive innovation in this sector:

- Industry Lead Approach
  - An **industry lead approach is critical** to ensure the **specific needs of each SME** are addressed. By assessing their needs on an individual basis, connecting processors with manufacturers and expertise that can provide the right fit is important to successful programs.

- Linking Processors with Support and Solutions
  - As SMEs have limited time and resources it would be beneficial to establish a resource that can identify processor needs and match them with applicable research, funding, and

[2] Berkhout, P., Van Galen, M., Pronk, B., Silvis, H., & Van Wagenberg, C. (2015). Success factors of the Dutch food industry (Rep.). Wageningen: LEI Wageningen UR.

innovative solutions. Research Partners also encouraged any processor to processor collaboration and information sharing wherever possible.

- Automation and Innovation
  - Research Partner's also identified opportunities for automation and innovation within the food and beverage sectors. These areas primarily focus on the movement of materials, such as packaging automation or material handling. Other areas of consideration were inline process controls to monitor and improve process and yield inefficiencies.

Additional notes from Research Partner discussions is provided in **Appendix D – Research Partner Discussion Details**.

4.0 FOOD AND BEVERAGE PROCESSOR ENGAGEMENT

4.1 Market Study Objectives

The objective of this market study is to identify opportunities for Dutch companies in the Canadian Food and Beverage Processing sector with specific identification for Dutch equipment and technologies.

4.2 Market Study Strategy

A qualitative market study approach utilized telephone interviews to allow for in-depth interviews to query Canadian based SME Food and Beverage Processors. Given the resources available, a targeted approach allowed for consideration of approximately 20 – 25 companies meeting the target audience criteria with a target of obtaining 10 – 12 interviews, achieve a 50% response rate.

A total of 12 interviews were completed for the market study.

5.0 MARKET STUDY EXECUTION

5.1 Contact List Development

Given the qualitative nature of the market study, it was imperative to have a clear understanding of what would define the participants in order to provide valuable feedback. The following target audience criteria were established. Internal networks, as well as feedback from the Project Team and Research Partners, were used to populate the contact list.

5.1.1 Target Audience Criteria

The target list of companies for this project was developed to create a better understanding of SME Food and Beverage Processors needs in Canada. The list of companies was developed based on the following criteria:

- A representation of both small (1-99 employees) and medium (100-499 employees) sized companies as defined by the Government of Canada[3]
- A representation of the primary Food and Beverage sectors in Canada[4]
- A geographical balance across Canada, focusing on areas of provincial expertise

Defining Small and Medium Enterprises

Given the fact that SMEs represent 97% of Canadian companies, this size of company was identified as the target participant for the market study as they will have specific requirements compared to large processors who represent a minority in Canada. For this reason and for the purposes of this market study, the definition of a small and medium-sized enterprise (SME) is based on the commonly used Canadian Government reference[5]:

SMEs are defined only by the number of employees:

- Small 1-99
- Medium 100-499
- Large 500+

When selecting the participants in the market study, the emphasis was on those that that worked in companies that represent the identified definition for SME's, as stated above. For the one (1) company that is considered large, (Table 1 – Distribution of Company Size of Participants), the rationale for including the company was due to the nature of the contact who had considerable experience with running SME operations and is now promoted to working in a large processing environment. Given the established relationship with the contact, their expertise, perspective and forward thinking in the industry, it was thought relevant to include them in this market study.

Table 1 – Distribution of Company Size of Participants

Company Employee Size	Number of Companies
>10	3
11-50	6
51-200	14
201-500	3
500+	1
Total	**27**

Representation of Food and Beverage Sectors

Canada is made up a variety of food and beverage sectors that are distributed throughout Canada. In some instances, the regional predominance of a specific sector is achieved through such aspects as readily available agricultural supply inputs, population density, labour availability and transport corridors to key markets, to name a few.

[3] http://www.ic.gc.ca/eic/site/061.nsf/eng/h_03018.html
[4] http://www.agr.gc.ca/eng/industry-markets-and-trade/canadian-agri-food-sector-intelligence/processed-food-and-beverages/overview-of-the-food-and-beverage-processing-industry/?id=1174563085690
[5] http://www.ic.gc.ca/eic/site/061.nsf/eng/h_03018.html

To mimic the distribution of existing Food and Beverage Processing sectors throughout Canada, the selection of companies for the market study resulted in the following breakdown provided in Table 2 – Distribution of Sectors.

Table 2 – Distribution of Sectors

Sector	Number of Companies
Meat	8
Dairy	4
Grain and Oilseed	2
Beverage	1
Bakeries and Tortilla	2
Animal Food Manufacturing	0
Fruit and Veg. / Specialty Foods	6
Seafood	2
Sugar and Confectionery	1
Other	1
Total	**27**

Geographical Balance

In addition, regional distribution and emphasis of the number of participants in the market study is representative of the number of Food and Beverage Processors currently residing across Canada as shown in Table 3 – Geographical Distribution of Participants. It is not surprising that Ontario, with the highest population density in Canada, is where the majority of Food and Beverage Processors reside. This is not only for access to workforce and the market but also transportation corridors and access to one of Canada's largest airports.

Table 3 – Geographical Distribution of Participants

Province	Number of Companies
Ontario	14
Saskatchewan	3
Nova Scotia	2
Quebec	2
Manitoba	1
British Columbia	2
Alberta	2
Prince Edward Island	1
Total	**27**

5.1.2 Contact List

Based on the above criteria, a list of 27 companies was compiled and vetted by the Project Team. (**Appendix E – Original Contact List of Potential Participants**). In all cases, an emphasis was placed on connecting with company owners or high-ranking senior level employees in order to obtain valued feedback for the market study.

The total number of representatives that participated in the market study included the following 12 companies:

- TMF Foods Ltd.
- Arbutus Ridge Farms
- Sunrise Bakery
- Intercity Packers
- Drake Meats
- Golden Valley Farms
- Sierra Custom Foods
- Cameron Seafoods
- Redpath Sugar
- Sultan of Samosa
- Conestoga Meat Packers
- Lead Better Foods

To provide information and background on the participating companies, company profiles were vetted to ensure they met the target audience criteria. (**Appendix F – Company Profiles**)

5.2 Interview Discussion Guide Development

The interview discussion guide was developed to address the critical questions outlined in the Terms of Reference for the market study provided by the Embassy of the Netherlands as follows:

1. What are the common problems of the broad base of the Canadian food and beverage processors? The KPMG report provides useful insights for the answer to this question.
2. What are the common solutions that the broad base of the Canadian food and beverage processors is looking for?
3. Which sub-sectors (red meat, fruits and vegetables, seafood, bakery, prepared meals, dairy, beverages) of the Canadian food and beverage processors provide opportunities for Dutch food technology providers?
4. What are the most appropriate and effective ways and venues to engage with the Canadian food and beverage processors? Are matchmaking “tools” such as webinars, conferences and economic mission sufficient?
5. How can the visibility of Dutch innovations be improved within the Canadian food and beverage processors?

Engagement with Research Partners helped to further develop the focus of the interview discussion guide to develop a stronger understanding of existing needs and the collaboration between Industry, Government, and Academia.

The format of the discussion guide was developed to facilitate open discussion on each given topic in order to gather unbiased responses and allow for participants to elaborate as needed. (**Appendix G – Interview Discussion Guide**)

The discussion guide is structured in the following format:

- Company Overview
- Operational Strengths and Challenges
- Technology and Equipment Solutions and Sourcing
- Familiarity with Dutch Technology and Innovations
- Improving Visibility and Relationships with Canadian Food and Beverage Processor SMEs
- Collaboration with Government and Academia

5.3 Interview Execution

Interviews were conducted throughout November 2018, using the previously vetted and confirmed contact list of SME Food and Beverage Processors in Canada as detailed above. Contact was made via direct telephone calls to these companies. The nature of the call was expressed and those in agreement to an interview were either conducted immediately or an appropriate time was arranged. Where necessary, voicemails were left and 2-3 additional attempts to contact companies were made in order to reach the targeted number of participants (10 – 12).

Interview Format:

When conducting the telephone interviews, open-ended questions, as outlined in **Appendix G – Interview Discussion Guide,** were asked to facilitate discussion in critical areas of this project. Whenever possible, open discussion was encouraged and participants were only asked about specific areas to facilitate discussion and build on the depth of responses.

For example, participants were first asked “What are the most pressing challenges to your current operation?” as an open-ended question. If further detail was needed participants were prompted regarding specifics such as labour, automation, innovation, capacity, etc. In all cases, open answers without probing for examples were the desired outcome, in order to avoid any bias.

5.4 Response Rate

Of the 27 original companies identified to be contacted, the project the response rate was as follows:

- 12 Interviewed (44%)
- 2 Declined to participate (7%)
- 13 were not able to be reached through multiple attempts (48%)

A total of 12 interviews were achieved and the average phone interview lasted 30 minutes.

Of the 12 companies interviewed, all 12 are open to being contacted by a representative from the Embassy of the Netherlands regarding their insights. Given this openness to continue communications, where appropriate, quoted responses are included in the report along with the company source. The quotes, in some cases, are not entirely literal but every attempt was made to convey the direct wording and meaning from the market study participants.

6.0 FOOD AND BEVERAGE PROCESSOR MARKET STUDY FINDINGS

The following highlights the responses from the one-on-one interviews with market study participants. Detailed responses obtained from the interviews are provided in Excel format (See attached).

6.1 Company Overview

- Number of Employees
  - Average: 189
  - Median: 85

- Facility Size
  - Average: 131,092 square feet
  - Median: 49,500 square feet

- Processing Sector
  - Meat (58% of participants)
  - Poultry (33.3%)
  - Fruits and vegetable (8%)
  - Seafood (17%)
  - Bakery (17%)
  - Prepared meals (17%)
  - Sugar and Confectionary (8%)
  - Other areas included:
    - Samosas (beef, lamb, chicken, vegetable)

6.2 Operational Strengths

Operational strengths vary and are often dependent on the facility location and operators. Common responses include:

- **Flexibility and ability to produce custom work to react to customer needs**
- The quality of employees
- The ability to achieve a high degree of quality control

"Our operation allows us to react to the needs of our customers through our custom process"

- *Sierra Custom Foods*

Additional operational strengths include:

- Increased alignment across the organization for increased efficiencies
- Centrally located to distribution networks
- Mechanizing labour-intensive processes
- Low taxes and low utility charges (location dependent)

6.3 Operational Challenges

Operational challenges are more consistent across participants and are not dependent on facility location or processes. Nearly all participants (92%) expressed a challenge with sourcing skilled and unskilled labour for their operation. In particular, there is currently a lack of formal training as it relates to meat cutting and processing in Canada. Therefore, employee training is the responsibility of employers.

> *"It is difficult to create a stable growing labour pool. 20% of our current labour is temporary workers bused in from Toronto weekly; a 1.5+ hour drive."*
>
> - *Leadbetter Foods*

> *"Skilled labour is difficult to find as there is no training offered in Canada. Typically, we use a combination of trained full-time employees in critical areas and supplement with temporary workers."*
>
> - *Sierra Custom Foods*

Additional operational challenges included:

- Process flow: Inefficiencies built into the layout of facilities. As respondent's operations have grown, expansions have been undertaken and although capacity has been increased, flow inefficiencies result.
- Physical Plant: Condensation is a primary concern of the Canadian Food Inspection Agency which is an issue for any operations that cooks on site as the increased temperature and/or steam produces condensation.
  - Condensation and high moisture impact robotics and automation
- Operational: Certain areas of the operations rely heavily on manual labour to complete tasks to achieve customized products
  - Variability in operation creates issues with automation and Standard Operating Procedures (SOPs)
    - This includes variation with raw materials and customized products
- Support Infrastructure: **There is a lack of support for automation and robotics in Canada as there are few food and beverage equipment manufactures based in Canada.**

> *"As the majority of food equipment is produced in Europe there is a lack of support for processors in rural areas"*
>
> - *Leadbetter Foods*

6.3.1 Operational Strengths and Challenges Conclusion

The operational strengths of participating Canadian Food and Beverage SMEs have also created challenges. **That is, the flexibility and ability to address market demands has led to a focus on batch processing. However, batch processing has reduced opportunities for automation and created a dependence on manual tasks.** Additionally, participants stated the quality of their employees as a strength. However, sourcing labour was a challenge for 92% of respondents. Additionally, providing skilled training to these employees has become the responsibility of the processors.

Addressing these operational strengths and challenges will require balancing the reduction of challenges while limiting the impact on operational strengths.

6.4 Technologies and Equipment Solutions

6.4.1 Implemented Solutions

In order to address the challenges outlined in **Section 6.3,** participants have implemented the following equipment and technologies:

New Equipment

Forty-Two percent (42%) of participants have implemented new equipment to alleviate the challenges faced in their operation. Participants who indicated implementing new equipment were focused on:

- Labour savings
- Yield improvements
- Increase ergonomics

New equipment needs to physically fit into these smaller footprint operations, maintain the quality of the end product and provide a reasonable return on investment (ROI), considered to be under 1 year. As Canadian Food and Beverage SMEs **rely heavily on customization**, it is important that new equipment is flexible and has the ability to produce less 'processed' or 'cookie cutter' products to meet their needs.

> *"Equipment companies say they will help with process improvement but they often want to force solutions without listening to the needs of the company. For example, suggesting a large piece of equipment where there is no area to house it physically on the line. There is a need for a more strategic response from equipment manufacturers to the unique needs"*
>
> - *Intercity Packers*

Process Improvement

Twenty-five percent (25%) of participants have implemented process improvements in their facility. Improvement focuses on standardizing operational procedures and equipment as well as ensuring employees are educated on these procedures. Standardizing equipment (i.e. only using one type of equipment for common operations) allows for easier maintenance and training on new equipment as well as economies of scale when purchasing new equipment from the same suppliers. Where possible, similar tasks within the operation are grouped to streamline the process.

In addition, some companies are investigating or implementing enterprise resource planning (ERP) systems to bring a greater amount of data and traceability to the operation. Implementing a full ERP system is an onerous task for most SMEs as many are structured for larger facilities. A right-sized program would be very beneficial to small and medium sized companies.

Automation / Technology Advancement

Twenty-five percent (25%) of participants have implemented automation or technological advancements into their operation. Specifically, for the meat processors participating in the market study, robotics has been implemented in various stages of processing from the slaughter floor to deboning, x-ray detection, and through to packaging and palletization. However, the variability of raw materials and the customized batch processes impact the viability of automation in some areas of the operation.

Training

Thirty-three percent (33%) of participants have implemented training programs in order to reduce the impact of challenges in their operation. Training is focused primarily on improving the quality of labour in the facility through ongoing training initiatives and clearly defined standard operating procedures (SOPs). A strategy one participant employs to improve corporate culture is to strive to recognize and reward leadership within their operation in order to retain skilled labour.

Facility Improvements

Seventeen percent (17%) of participants have made facility improvements to address operational challenges. Similar to process improvements, facility improvements are conducted on a continual basis. One respondent indicated that an efficiency analysis is conducted on all processes prior to facility changes to ensure changes impact the correct areas of the operation.

> *"We conduct efficiency analysis with a focus on continuous improvement. Our primary focus is on semi-automation in areas where it makes sense then progressing towards full automation"*
>
> *- Leadbetter Foods*

Operational Flow Changes

Thirty-three percent (33%) of participants indicated making changes to their operational flows. These flow changes were made to address inefficiencies within the operation without necessarily purchasing new equipment or technologies. Due to the age of facilities and modular expansions, operational flows have been challenged to provide ease of product flow and address the Canadian Food Inspection Agency (CFIA) regulations. Operational changes included double shifting in order to maximize facility capacity, adjustments to supply chain, and automation of tasks where possible to reduce dependence on labour.

> *"When addressing operation changes, we focus on identifying the areas that surround a problem to ensure our solutions address them and there are no unforeseen consequences to changes"*
>
> *- Sultan of Samosas*

Additional Solutions

Participants indicated that several other solutions which have been implemented to help limit the impact of challenges on their operations. These solutions include software and system solutions such as:

- Inventory Management Systems
- Improved Supply Chain Logistics

In addition, research-based and collaborative solutions such as:

- Research into improving shelf-life through high-pressure processing (HPP) and the reduction of bacterial growth
- Collaborative partnerships with raw material suppliers to develop new uses for materials and improved efficiencies
  - Such as spice manufacturers working to develop new products which utilize their ingredients
  - Due to the low-profit margins in the food and beverage industry, efficient development of new products is critical to success

6.4.2 Automation

The majority of participants (83%) identified that there is an opportunity for automation within their operation. The most common opportunity for automation is in the movement of materials (conveyers) and packaging. Common material handling and packaging solutions including:

- Weighing and portioning systems
- Conveyors / packaging arms / pick and place robotics
- Packaging systems capable of handling variable package sizes
- Inventory management systems

Other areas participants indicated automation would be a strong fit include:

- Inline robotics, that is, integration with manual operations and robotics where tasks can be automated.
  - E.g. Loading of slicing machines or thermo-packaging
- Automated processing of shipping and receiving operations to reduce the time trucks remain idle at the facility

While participants recognize opportunities for automation in their operation, they are also aware of the challenges associated with implementing automation. Challenges highlighted include:

- Automation must be flexible enough to be able to account for batch processing, variability in raw materials, multiple SKUs, and multiple packaging types
- Technology is expensive and the ROI must be clearly established for SMEs to justify purchasing
- Equipment must maintain the same degree of quality that was achieved through manual operations
- Equipment must be able to fit in the operation both physically and logistically, to avoid any delays in operation

6.4.3 Technology and Equipment Solutions Conclusion

While market study participants indicated implementing a variety of solutions from new equipment to training, as well as facility improvements, **each area of improvement had to fit within their current operation**.

Twenty-five percent (25%) of participants have implemented automation within their operation and 83% saw an opportunity for automation. Similar to other solutions, automation must be flexible enough to meet the needs of SME's operations and not take away from the quality or appearance achieved through manual processes.

In order to provide solutions that address the challenges faced by SMEs, manufacturers must first understand processor's area of business to identify right-sized solutions and growth potential.

6.5 Technologies and Equipment Sourcing

6.5.1 Identified Resources

Food and Beverage SMEs use a variety of resources to source equipment for their operation, both during the initial information gathering phase and up to purchase. The most commonly used resources are as follows:

- **Tradeshows[6] (92% of participants)**
- Online research (58%)
- Network within the industry such as colleagues, associations[7], and/or other businesses (50%)
- Known vendors (i.e. local suppliers or vendors used in the past) (50%)
- Industry publications (42%)
- Industry associations (17%)
- Equipment manufacture outreach[8] (17%)

6.5.2 Most Effective Resource

There is no singular resource which participants view as the most effective. Rather, participants indicated that they use multiple resources such as tradeshows, online research, and industry publications to stay on top of new technologies in the industry as well as preliminary research into available solutions. Once a decision has been made to source equipment, SMEs are looking to connect with someone directly in order to determine the right fit for their organization terms of ROI as well as future ability to install and service equipment. Being able to visualize or actually see the automation in action was very appealing to this operationally focused audience and allows them to understand the practicality of implementation into their own facilities.

[6] A list of Canadian Food and Beverage Processor Tradeshows can be found in **Appendix A – Industry Events and Publications**

[7] Industry Associations discussed during interviews as well as additional Canadian associations can be found in **Appendix H – Industry Associations**

[8] Participants have utilized manufacturer outreach in the past, however, it has not been a recent tool

While the approach of preliminary research leading into purchasing decisions was common, multiple participants based their purchases heavily on their own network. Relying on proven methods, past purchases, and network recommendations, companies are looking for equipment suppliers they trust to meet their goals in both ROI, reliability and efficiencies. Purchasing from past sources also had the added benefit of familiarity for workers and maintenance.

6.6 Familiarity with Dutch Technology and Innovations

Based on the participants interviewed, 67% indicated they have limited knowledge or no knowledge in regards to Dutch innovation in the Food and Beverage Sector. Thirty-Three percent (33%) are very familiar to familiar with Dutch innovations. In addition to the quantitative feedback received, participants also provided the following insights:

- Multiple participants indicated that they view manufacturers from Europe as a whole rather than by individual countries. The quality of equipment from Europe was known to be strong in general
- Participants are more concerned with finding the right fit equipment rather than where it comes from, as long as it meets their needs and ROI

Participants who are familiar with Dutch innovation associate the following areas with the Netherlands:

- Innovation leaders in regards to collaboration and capital expenditure
- Efficient use of land
- The strength of food manufacturing equipment and solid integration throughout the industry

6.6.1 Improving Visibility and Relationships

Based on the existing level of awareness of Dutch Innovations and Technologies, it will be first important to increase the exposure of Dutch technologies to targeted Canadians and secondly to build a reputation of being able to address the needs of Canadian Food and Beverage Manufacturers. Key insights into how to achieve this include:

- Presentations and presence at trade shows, major Food and Beverage events, as well as sector-specific events. During these events, meeting can be arranged with processors to address their specific needs.
- Manufacturers must be able to demonstrate the functionality of equipment and be able to provide timely and effective service. Utilizing resources to demonstrate equipment such as:
  - Videos
  - Webinars
- Engage directly with Industry Associations
  - Associations focus on government advocacy, lobbying on behalf of the members for regulatory and policy change and staying on top of key issues facing the sector to help drive collective solutions and foster change. Through building a physical presence in Canada and engaging with Industry Associations, Dutch manufacturers can become a known resource for SMEs in the Food and Beverage sector and build partnerships.
- There must be a North American physical presence or at the very least a partnership with a knowledgeable Canadian broker/distributor with regards to visibility and accessibility

- Develop partnerships with the Canadian Government, non-governmental organizations (NGOs), and academia to connect with Food and Beverage Processors and develop an understanding of the challenges to be solved within the industry.
- Focused and targeted missions and information experiences
  - Understand sector-specific problems and provide Dutch-based solutions that are highly focused
- Trade magazine publications

A list of key industry event and publications to engage with processors directly can be found in **Appendix A – Industry Events and Publications**

6.7 Industry Collaboration

6.7.1 Government

With regards to seeing value in collaborations between government and industry partners to drive innovation in the food and beverage sector, participants responded favourably to the concept, in theory.

- Fifty-eight percent (58%) of participants are in favour or strongly in favour of this collaboration
- 25% are indifferent
- 8% opposed
- 8% strongly opposed

While participants are open to this sort of collaboration, past experience has left many skeptical of the functionality and meaningful outcome of these collaborations. Despite this skepticism, the following benefits of government-industry collaboration were expressed:

- Facilitation of networking opportunities
- Expansion of trade
- Collaborative research
- Government facilitated international tours to observe new food and beverage technologies
- Public safety through regulations and food safety measures
- Funding opportunities
- Setting the agenda for government/industry interaction

Although participants expressed optimism in regards to government collaboration the following challenges were expressed:

- Projects do not seem to materialize on an industry level
- Misalignment of project focus and awareness of industry realities and challenges
- There is too much red tape in order to engage in collaboration and receive funding
- Projects are too ambiguous and don’t have a clear direction

In addition to the challenges and benefits provided during interviews, participants also feel that government should not play a direct role within the industry but rather create an environment that supports innovation through removing barriers and creating tax breaks which support this environment.

Participants also feel that the government should back companies who have proven to successfully drive innovation rather than trying to create innovation based on the government's agenda.

6.7.2 Academic

In a similar regard to government collaboration, participants are open to Academic collaboration in theory. However, past experience, either directly on indirectly, has created skepticism regarding academic collaborations. Fifty (50%) of participants are in favour or strongly in favour (42% are opposed and 8% are indifferent).

Several academic capabilities are seen as beneficial to participating Food and Beverage Processors:

- Collaborative research
- New product development, testing, and commercialization
  - Includes bi-product development and waste divergence
- Culinary teams and facilities
- Research studies
- Nutritional analysis and other product testing

The challenges associated with academic collaborations are similar to those associated with Government collaborations:

- Solutions are not always industry applicable or focused. Academic researchers are, at times, not aware of the impact of research on SME operations.
- The research process is not streamlined to the needs of SMEs (i.e. lengthy timelines, red tape)
- SMEs participating in the market study do not have a great deal of extra time to facilitate collaborations
- There are issues regarding intellectual property of research which prevents true collaboration from occurring

6.7.3 Industry Associations

As identified in **Section 6.6.1,** Industry Associations play a key role in the Canadian Food and Beverage Sector by bringing a collective voice to the specific sectors they represent. In addition to government and academic collaborations, participants were also asked if Industry Associations had a role in industry collaboration. Participants are very in favour of this (92%) as Industry Associations are viewed as having **an industry focused oversight and are focused on addressing the needs of the industry**. Industry Associations are viewed as more aware of sector needs, as a median between government and industry, and as a tool to foster innovation.

Although the response was primarily positive regarding Industry Association involvement in collaboration, several caveats were shared:

- Industry Associations need to focus on the agenda of their members and not pursuing their own agenda (i.e. being a resource for innovation to members rather than solely focused on increasing association memberships)
  - Member funded, and member driven organization are often the most successful as they do not rely on outside funding (primarily government) to operate, and are not setting an agenda based on this funding source.

- Traditionally, Food and Beverage Companies in Canada are not open to sharing information as it is often proprietary and any advantage is seen as valuable

Based on responses collected it is clear that as long as Industry Associations and Food and Beverage Processors are working towards the same goals, association collaboration is welcome and beneficial to this sector.

Industry Associations discussed during interviews as well as additional Canadian associations can be found in **APPENDIX H – INDUSTRY ASSOCIATIONS.**

7.0 RECOMMENDATIONS

Based on information gathered from previously conducted research, discussions with academic and government Research Partners, and this qualitative market study which provided direct industry engagement, **it is clear that Canadian Food and Beverage Processors have not adopted automation and technology to the same degree as European counterparts**. Despite this lag in adoption, Research Partners and market study participant processors **acknowledge an opportunity for automation and new technology within the Food and Beverage sector.**

In order to take advantage of this opportunity, Dutch equipment manufacturers **must engage directly** with Food and Beverage Processors. It is recommended that this engagement be **specific and practical** to the **needs of individual operations** in order to determine the challenges faced by operations on an industrial level. A **business to business approach** is the most palatable for operators which can then allow Dutch manufacturers to provide, or develop, customized solutions to address these challenges.

Industry Associations are favourably viewed and specialized within processor sectors. Developing connections with these organizations would be valuable, providing their networks and insight into the needs of its membership and be able to facilitate direct connection to processors.

In order to build long-term success, a North American physical presence must be established. This can be accomplished by first leveraging research partner connections to focus on regional needs, as well as establishing a partnership with a distributor who will represent, and provide service for, Dutch manufacturers in Canada. As the Dutch presence continues to grow, direct investment into Canada by Dutch manufacturers can further support processor confidence in equipment as well as the ability to install and service.

8.0 STRATEGIC ACTION PLAN

Phase 1 – Building Connections and Information Sharing (1-3 Months)

- Leverage Research Partners and develop connections with Industry Associations, applicable to Dutch expertise
  - Utilize these connections to solidify priorities and identify problem areas in processor operations
- Initiate communications with Canadian Food and Beverage Processors through Industry Associations membership, trade shows, industry-focused communication materials inviting interest and knowledge sharing based on the Netherlands successes in this industry

Phase 2 – Developing Presence and Improving Visibility (3-6 Months)

- Using the problem areas identified in Phase 1, engage directly with processors to determine the 'right sized' solutions for their operations. Structural presence and structural communications are needed.
  - Engage **business to business** support to identify process flow solutions, including process and yield improvement, industrial engineers and other experts to assess, identify and link strategic Dutch companies to provide solutions
  - If solutions do not currently exist, determine value in developing solutions
- Develop opportunities for practical-based, company-specific experiences such as missions, webinars and information sessions to allow Canadian companies to explore opportunities, create relationships and identify collaborative alliances. This includes 'matchmaking' on an individual level which could be a role that Industry Associations plan in pinpointing specific companies that are in need of solutions
- Develop a partnership with a regional broker/distributor who could represent Dutch manufacturers in Canada to allow for a physical presence to make connections. This partnership should include the ability to reliably install and service equipment
  - A distributor may represent multiple Dutch manufactures with the objective of finding the best solution for processors
  - Equipment companies in Canada have utilized both in-house demonstration spaces and test sites to demonstrate equipment and allow for buyers to explore and test equipment
  - Academic institutes have also allowed companies to test and explore new technologies within academic test sites which help students to become familiar with suppliers

Phase 3 – Increased Presence and Processor Engagement (6 months and beyond)

- As the success of Dutch manufacturers grows in Canada, it may be advantageous for these companies to develop a direct physical presence in North American
  - This may be by individual manufacturers or a strategic collaboration of companies
- A strategic problem and solution driven approach is most preferable when engaging with SMEs. This may take time to build relationships and valued networks among Canadian Food and Beverage Processors. A long-term mechanism for occasional engagement will allow Dutch companies to continue to be on the radar of Canadian companies and in the ready to assist
- Regional Partners such as government, academia, and Industry Association should continue to be used as their connection directly to manufactures is valuable. Utilizing the Netherlands' successful models, such as the 'Golden Triangle' of collaborative, industry-based efforts should be carefully considered to develop positive change in Canada.

Next Steps

This qualitative market study was a strategic first step to validating and verifying key needs of the Canadian Food and Beverage Processing sector. As identified in the Action Plan above, a concerted and focused approach to developing relationships and applicable, practical solutions will allow the Netherlands to be positioned positively as a resource for these Canadian companies.

9.0 APPENDIX A – INDUSTRY EVENTS AND PUBLICATIONS

9.1 Industry Tradeshows and Events

9.1.1 General

- Process Expo (Chicago)
- Food Processing Expo 2019 (California)
- Pack Expo (Las Vegas)
- Pack Expo East (Philadelphia)
- American Food Sure Summit
- ProFood Tech (Chicago)
- Food Automation and Manufacturing Conference and Expo (Florida)
- IFT (Institute of Food Technologists, New Orleans)
- SIAL Canada
- Food Pro West

9.1.2 Meat

- Meat Industry Expo
- The National Poultry Show
- The Canadian Seafood Show
- International Boston Seafood Show
- International Production and Processing Expo

9.1.3 Bakery

- Bakery Showcase Trade Show and Conference
- International Baking Industry Exposition

9.1.4 Agriculture

- Canadian Farm Progress Show
- Outdoor Farm Show
- Canadian Western Agribition Grain Expo
- Ontario Fruit and Vegetable Convention
- Canadian Dairy Expo
- Canadian Dairy Showcase

9.1.5 Beverage

- Northwest Food and Beverage World

9.1.6 Food Service

- NAFEM (North American Association of Food Equipment Manufacturers, Florida)

9.1.7 Other

- The Canadian Coffee and Tea Show

- Canadian Health Food Association Expo (East and West)
- Grocery Innovations Canada
- Sweets & Snacks Expo
- SNAXPO
- Refrigerated Foods Association Exhibition & Conference
- Natural Products Expo West

9.2 Industry Publications and Websites

- Canadian Food Business
- Food in Canada
- Canadian Grocer
- Prepared Foods
- Meating Place
- Food Dive
- Canadian Packaging
- Meat+Poultry
- MENU (Food Service in Canada)