



Australia Japan Business
Co-operation Committee
AJBCC

New Frontiers

BUSINESS COLLABORATION

The Australia-Japan Context

OCCASIONAL SERIES
AUGUST 2020

International communication and dispersal of information has accelerated under the impact of digital platform adoption, including the Internet enhancing the opportunity for all forms of collaboration.

Working together or collaborating to achieve a common goal has been even further magnified as a result of the 2020 pandemic. “Collective Efforts” could become the new business mantra, but without a number of preconditions and methods to overcome a range of obstacles, the probability of success will be heavily constrained.

A basic precondition for success of a “collective effort” must be trust. Australia has enjoyed a long-standing trusted business relationship with Japan. If we are to leverage this relationship how can businesses in the bilateral space use collaboration effectively? What can be learnt from existing examples?

Objective Of Stage One

As an initial step, this report uncovers and analyses existing examples of collaboration with a particular focus on **business**. However, some overarching Government cases and purely academic collaborations are included.

“Collaboration” is an amorphous term. Stage One attempts to classify and define the different forms of collaboration based on the data collected.

Stage Two Aspirations

Using this report as a base, Stage 2 of this project will concentrate on a sub-sample of the data and look at what issues have arisen as a result of these collaborations – what has worked, what hasn’t; what aspects require mitigation to achieve a successful outcome; what skills are helpful; and the importance or otherwise of melding the bilateral teams. These are just some of the issues to be explored.

The overall aim of this project is to encourage more companies in the bilateral space to engage in these activities and, using the lessons learnt, achieve success.

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An overall quick summary of Stage 1 results can be found in [Section 3](#) on page 10.

1. Collective Efforts

The current pandemic offers good examples of collaboration or “collective efforts” increasing in the health and medical sectors.

International collaborations in these areas are commonplace, but are not as practised in other mainstream business areas. However, there is evidence of a nascent trend towards collaboration more broadly. *What is causing this?* There are a number of factors which may be contributing.

These include:

- greater and faster international connectivity and information dissemination using digital platforms
- the proliferation of start-up companies and growing interest amongst established companies to gain access to agile methods for product development or disruptive services
- using joint collaboration to drive increased speed to market.

However, achievement of a successful business collaboration is not without many challenges. These include, but are not limited to, the:

- creation of an effective operational structure or framework to support collaboration
- mitigation for differences in corporate cultures
- development of trust across the project teams
- setting of realistic time frames to achieve the desired outcome.

At the start of a collaboration, perhaps a sometimes overlooked aspect is that all parties may work towards the same goals, but each party often has different interests and motives and as a result, will derive different benefits out of the collaboration.

“Collaboration” is an ambiguous term as its form can take on many different styles.

Collaboration can be viewed as a group of organisations working together to achieve common goals that are otherwise out of reach - or difficult for a single organisation to obtain by itself.

With pooled resources, participating parties complement each other’s weaknesses or lack of resources and leverage off each other’s strengths to achieve greater things that are hard or impossible to achieve by a single organisation. Organisations share the resources and take the risks together.

However, how can the form of collaboration be described in a more specific way?

Collaboration Survey

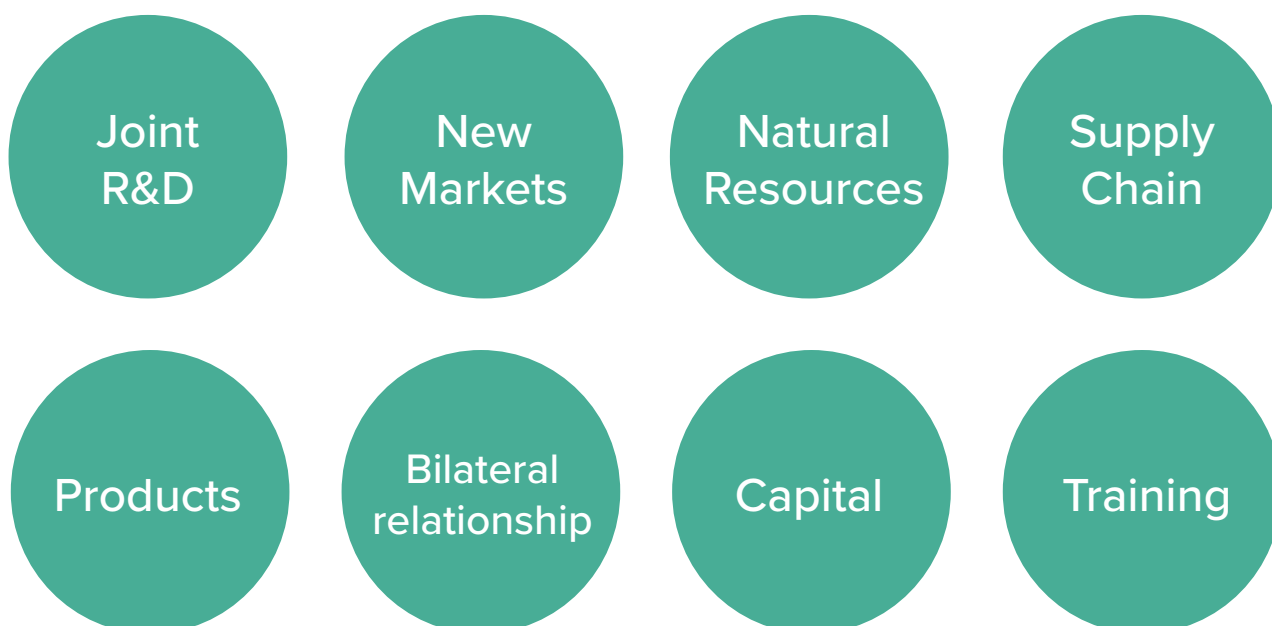
To help define “collaboration”, but specifically as it applies to the bilateral context, the AJBCC has compiled a list of publicly reported Australia-Japan examples.

2. The Context of Collaboration

The AJBCC has collected data on **111 collaboration projects** relevant to the Australia-Japan context. Details on the data collected are in Section 3.

Analysis of these projects shows that collaboration can be classified into **8 basic types** based on the purpose of the collaboration. These are:

1. **Joint R&D** / Joint study / Joint pilot study / Joint feasibility study
2. **Access to new markets / sales networks**
3. **Development of natural resources / energy** - securing natural resources/energy
4. **Acquisition of supply chain components** including sourcing raw materials or building new infrastructure/facilities in a supply chain
5. **Access to partner's products** / technologies / IP through licensing or acquisition or another type of agreement
6. **Advancement of the bilateral relationship** - including setting a governmental collaboration framework
7. **Access to capital** / funding
8. **Personnel training** / upskilling.



Although each example in the collected data had aspects of their collaboration which might fall in more than one of these **8 categories**, Table 2.1 shows what our analysis suggested was the **most significant form** for each collaboration.

This showed that categories 1 (**Joint R&D** / Joint study / Joint pilot study / Joint feasibility study) and 6 (**Advancement of bilateral relationship** - including setting collaboration framework) were the most significant.

Interestingly, there was no collaboration based *purely* on category 7 (**Access to capital** / funding).

“Joint R&D and Advancement of a bilateral relationship were the most significant categories.”

TABLE 2.1 The Single Most Significant Collaboration Category

Category	Number	Percentage %
1. Joint R&D	32	29%
2. Access to new markets/sales networks	17	15%
3. Development of natural resources/energy	10	9%
4. Acquisition of supply chain components	8	7%
5. Access to partner's products	17	15%
6. Advancement of bilateral relationship	23	21%
7. Access to capital	0	0%
8. Personnel training	4	4%
TOTAL	111	100%

Source: AJBCC - collected data from published Japanese and English sources.

“...there was no collaboration based purely on Access to capital.”

“...there is a significant increase in **Access to new markets/sales networks.**”

However, as mentioned above, these collaborations equally have aspects which mean they can be classified under more than one of the 8 categories.

On this basis, Table 2.2 reveals that the largest category remains **Joint R&D / Joint study / joint pilot study / Joint feasibility study** with 45% of the examples. However it shows that there is a significant increase in the category **Access to new markets/sales networks** recording 39%.

These were well ahead of **Advancement of bilateral relationship** - including setting a governmental collaboration framework and **Accessing partner’s products / technologies / IP** through licensing or acquisition or other type of agreement.

TABLE 2.2 Collaboration by Category

Category (Multiple Categories Permitted)	Number	Percentage of the Sample Total*
1. Joint R&D	50	45%
2. Access to new markets/sales networks	43	39%
3. Development of natural resources/energy	12	11%
4. Acquisition of supply chain components	11	10%
5. Access to partner’s products	27	24%
6. Advancement of bilateral relationship	31	28%
7. Access to capital	15	14%
8. Personnel training	5	4%

Note:

1. Table does not add to 100% as observations are not mutually exclusive

2. Percentage column is share of the 111 observations.

Source: AJBCC - collected data from published Japanese and English sources.

The Focus of the Collaboration

The collaboration projects were classified by industry in Table 2.3.

Using the Australian Bureau of Statistics' ANZSIC industry codes, this suggests that **Manufacturing** was the most significant, representing 19% of the collaborations identified, followed by **Electricity, Gas, Water and Waste Services** with 14%. However, there was a reasonable spread over the remaining sectors.

“Manufacturing and the Electricity, Gas, Water and Waste sectors were the most significant...”

Focusing on the 2 largest sectors, in Manufacturing some examples include food manufacturing; pharmaceuticals; componentry; and agricultural equipment. Projects related to renewables were conspicuous in the Electricity, Gas, Water and Waste Services sector.

TABLE 2.3 Collaboration Projects by Industry Classification

Sector	Number	Percentage %
Agriculture, Forestry and Fishing	9	8%
Mining	11	10%
Manufacturing	21	19%
Electricity, Gas, Water and Waste Services	16	14%
Construction	6	5%
Wholesale Trade	0	0%
Retail Trade	0	0%
Accommodation and Food Services	0	0%
Transport, Postal and Warehousing	7	6%
Information Media and Telecommunications	5	5%
Financial and Insurance Services	8	7%
Rental, Hiring and Real Estate Services	0	0%
Professional, Scientific and Technical Services	10	9%
Administrative and Support Services	1	1%
Public Administration and Safety	2	2%
Education and Training	5	5%
Health Care and Social Assistance	8	7%
Arts and Recreation Services	2	2%
Other Services	0	0%
TOTAL	111	100%

Note: based on Australian Bureau of Statistics ANZSIC codes

Source: AJBCC - collected data from published Japanese and English sources.

Collaboration – What did each side bring?

A fundamental aspect of collaboration is what each side brings to the table. **7 Input** categories for the Japanese and Australian sides can be identified as:

1. Capital and Funding
2. Expertise including Technology
3. Raw Materials and Resources
4. Sales and Distribution Networks
5. Commitment to Collaborate
6. Human Resources
7. Products and Services

...there are some interesting differences in inputs between the Australian and Japanese sides of the Business collaboration.

Table 2.4 shows some interesting differences in terms of the inputs the Australian and Japanese sides brought to a **Business collaboration**.

Not surprisingly, *Capital and Funding* was a more prominent contribution from the Japan side, just as the supply of Raw Materials and Resources highlighted Australia’s comparative advantage. Reflecting access to Australian innovation, *Products and Services* was more prominent for Australian business. However, *Sales and Distribution Networks* was a popular contribution from Japanese business.

TABLE 2.4 What Each Side Brought to a Business Collaboration – Major Contribution

Inputs	Japanese Business Inputs	Australian Business Inputs
Capital and Funding	21%	10%
Expertise Including Technology	52%	45%
Products and Services	5%	18%
Sales and Distribution Networks	17%	8%
Raw Materials and Resources	1%	14%
Commitment to Collaborate	2%	2%
Human Resources	2%	3%
TOTAL	100	100%

Note: Percentage is the number of collaborations where a Business organisation was a participant
 Source: AJBCC - collected data from published Japanese and English sources.

Collaboration Participants

Counterparties to the collaboration were classified in organisational categories of: Business, Academia, Government and Other (which included not-for-profits).

Table 2.5 reveals that Business organisations participated in over **70%** of the collaborations with around 50% of the examples specifically business-to-business. The next most numerous was Government-to-Government collaborations.

Interestingly, there was no example of a Japanese Academic entity with an Australian business.

“...Business organisations participated in over 70% of the „ collaborations...”

TABLE 2.5 Organisational Category in Australia and Japan for the Collaboration

Collaboration Participant		Number	Percentage %
Business:		79	71%
	<i>of which</i>		
Business to Business	50		
Business to Government	10		
Business to Academia	9		
Business to Not-for-Profit	4		
Business to Multisector ¹	6		
Government ²		14	13%
Academia ³		8	7%
Other ⁴		10	9%
TOTAL		111	100%

1 Most collaborations only have 2 parties. There were some however that had more than 2.

2 Government to Government

3 Academia to Academia

4 Includes Not-for-Profit collaboration and Other

Source: AJBCC - collected data from published Japanese and English sources.

Furthermore, Table 2.6 shows that almost 70% of the collaborations were in the same organisational category.

TABLE 2.6 Collaboration Diversity

Collaboration	Number	Percentage %
Same organisational category in both Australia and Japan	76	68%
Different organisational category in Australia and Japan	35	32%
TOTAL	111	100%

Source: AJBCC - collected data from published Japanese and English sources.

Scale of Organisations

Analysis of the top 3 business related collaboration categories, namely:

- Category 1. **Joint R&D** / Joint study / Joint pilot study / Joint feasibility study
- Category 2. **Access to new markets/sales networks**
- Category 5. **Access to partner's products**/technologies/IP through licensing or acquisition or other type of agreement.

shows that:

- large corporations, especially on the Japan side, dominate the sample
- although large corporations also feature on the Australian side, there is a significant number of small and medium companies – who invariably are teamed up with large Japanese counterparties
- Australian universities seem to be more proactive in seeking Japanese collaborations than Japanese universities pursuing Australian collaborations.

3. Summary of Stage One

- Identified 111 examples of Australia-Japan collaborations with a significant number (over 70%) where Business organisations, either Japanese or Australian were one of the participants.
- Classified the **form** of collaboration into 8 categories:
 1. **Joint R&D** / Joint study / Joint pilot study / Joint feasibility study
 2. **Access to new markets / sales networks**
 3. **Development of natural resources / energy** - securing natural resources/ energy
 4. **Acquisition of supply chain components** including sourcing raw materials or building new infrastructure/facilities in a supply chain
 5. **Access to partner's products** / technologies / IP through licensing or acquisition or another type of agreement
 6. **Advancement of a bilateral relationship** - including setting a governmental collaboration framework
 7. **Access to capital** / funding
 8. **Personnel training** / upskilling.
- Described the **input** that each side has contributed to the collaboration using 7 categories:
 1. Capital and Funding
 2. Expertise including Technology
 3. Raw Materials and Resources
 4. Sales and Distribution Networks
 5. Commitment to Collaborate
 6. Human Resources
 7. Products and Services.
- Categorised the collaboration industry sectors.
- Identified the sectors that the participants came from (See Appendix 1).

APPENDIX 1: The Data Collected, Groupings and Basic Analysis

Data was collected on 111 examples of collaboration. Around 80% were established in the 5 year period between 2015-2020.

The data was sourced from public announcements in either Japanese or English which announced the intention of the collaboration projects.

Table A1 shows the classification of the Australian organisations in these collaborations. Over 50% were from the business sector, almost 20% from the Government sector and 20% from academic institutions.

TABLE A1 Australian Organisations by Segment

Australian Segment	Number	% Share of Total Collaborations*
Business	46	52%
Academia	18	20%
Government	17	19%
Not-for-Profit	8	9%
TOTAL	89*	100%

*Based on 111 collaborations. Some of these had more than 2 organisations participating
Source: AJBCC - collected data from published Japanese and English sources.

As a comparison, table A2 shows that the Japanese participants for these sectors were quite different. More than two-thirds of the Japanese organisations in the sample were from business. Government was the next most numerous sector but this was noticeably lower than the corresponding Australian share.

TABLE A2 Japanese Organisations by Segment

Japanese Segment	Number	% Share of Total Collaborations*
Business	60	67%
Academia	10	11%
Government	12	13%
Not-for-Profit	8	9%
TOTAL	90*	100%

*Based on 111 collaborations. Some of these had more than 2 organisations participating
Source: AJBCC - collected data from published Japanese and English sources.

Industry Sector

Table A3 shows the industry sector of the Australian organisations in the sample.

TABLE A3 Australian Organisations by Industry

Australian Organisations by Industry	Number of Organisations	Percentage %
Agriculture, Forestry and Fishing	4	4
Mining	7	8
Manufacturing	11	12
Electricity, Gas, Water and Waste Services	9	10
Construction	2	2
Wholesale Trade	0	0
Retail Trade	0	0
Accommodation and Food Services	0	0
Transport, Postal and Warehousing	1	1
Information Media and Telecommunications	3	3
Financial and Insurance Services	5	6
Rental, Hiring and Real Estate Services	0	0
Professional, Scientific and Technical Services	8	9
Administrative and Support Services	1	1
Public Administration and Safety	11	12
Education and Training	20	22
Health Care and Social Assistance	6	7
Arts and Recreation Services	1	1
Other Services	0	0
TOTAL	89	100%

Source: AJBCC - collected data from published Japanese and English sources.

Table A4 shows the industry sector of the Japanese organisations in the sample.

TABLE A4 Japanese Organisations by Industry

Japanese Organisations by Industry	Number of Organisations	Percentage %
Agriculture, Forestry and Fishing	5	6
Mining	2	2
Manufacturing	19	21
Electricity, Gas, Water and Waste Services	7	8
Construction	3	3
Wholesale Trade	8	9
Retail Trade	0	0
Accommodation and Food Services	0	0
Transport, Postal and Warehousing	4	4
Information Media and Telecommunications	4	4
Financial and Insurance Services	6	7
Rental, Hiring and Real Estate Services	0	0
Professional, Scientific and Technical Services	9	10
Administrative and Support Services	2	2
Public Administration and Safety	7	8
Education and Training	10	11
Health Care and Social Assistance	3	3
Arts and Recreation Services	1	1
Other Services	0	0
TOTAL	90	100%

Source: AJBCC - collected data from published Japanese and English sources.

APPENDIX 2: Definitions and Examples

A. Collaboration Categories and Examples

1. Conduct Joint R&D / Joint study / Joint pilot study / Joint feasibility study

Definition of this category:

Partners jointly conduct studies for various purposes.

This includes development of new product or technology/further development of an existing product or technology.

Some specific examples that fall into this category:

- **Teijin x AEV:** Jointly develop lightweight automotive technologies using Teijin's materials and know-how and AEV's engineering capabilities in lightweight solutions for the chassis, suspension and steering. AEV's Modular Vehicle used as foundation.

A soil supplement spreader, Nu-tan helps soil bed preparation. This project was set by Yanmar. This product is in transition to commercialisation.
- **Piotrek x CSIRO:** The two parties to develop the next generation of lithium battery technology for portable electronic devices, drones and automotive vehicles. The collaboration uses both CSIRO's and Piotrek's technologies and focuses on developing the safest longer life battery and commercialisation in 5 yrs.
- **Takeda x BioCurate:** Takeda and BioCurate (JV between Monash Uni and Melbourne Uni) to share commercial and scientific expertise with the aim of accelerating the discovery and development of new therapeutics and drugs.
- **Yanmar x Kyoto Institute of Technology x Design Factory Melbourne (Swinburne University) x SUGAR Network:**

A collaboration between these four organisations created a farming tool for organic farmers to reduce time and labor.

2. Access to new markets/sales networks

Definition of this category:

Collaboration enables a participant to enter new markets using partner's sales networks.

Some specific examples that fall into this category:

- **Eisai x Cogstate:** Eisai will become a shareholder of Cogstate and fund product development, market and push sales of Cogstate's products in Japan. For Cogstate, their products will be available in Japan and gain more funding for product development.
- **Mitsui x Carbon Revolution:** Carbon Revolution's expansion into the Japanese auto market and across Asia using Mitsui's network. The deal covers sourcing raw materials, the recycling of carbon fibres, logistics tie-ups, trade and equipment finance using Mitsui's influential network. Mitsui is focused on businesses engaged in sustainability and Carbon Revolution's light weight wheels (40% lighter) technology fits well in their view.

3. Development of natural resources/energy. Securing natural resources/energy

Definition of this category:

The partners work together to develop natural resources (e.g. gas, oil, coal) or unconventional energy resources (e.g. hydrogen, renewable energy, wood biomass).

A collaborating participant secures supplies of natural resources or unconventional energy resources by getting involved in collaboration/partnership.

Some specific examples that fall into this category:

- **Kyushu Electric Power x Transborders Energy:** Joint Study Agreement aims to develop a Floating LNG (FLNG) Solution, unlock stranded gas resources and develop a new LNG supply source. Having Kyushu Electric as a partner, they could be a customer for the LNG and could help access low-cost debt finance from JBIC.
- **Kawasaki Heavy Industries x AGL x Governments (and other):** AGL helps lead the Hydrogen Energy Supply Chain (HESC) project led by Kawasaki Heavy Industries. The project is to convert brown coal from the AGL Loy Yang mine into liquid hydrogen then ship to Japan. The Australian, Japanese and Victorian governments and a consortium of companies also participate in this project.

4. Obtaining supply chain components including sourcing raw materials and building new infrastructure/facilities in supply chain

Definition of this category:

A collaborating partner obtains a supply chain component (e.g. sourcing raw materials from its partner/supplier, use a partner's distribution network, build a new function e.g. fuel terminal, grain receival sites, in the supply chain).

Some specific examples that fall into this category:

- **Kanematsu x KIPG (Kangaroo Island Pure Grain):** Kanematsu put capital investment into upgrading silos and purchasing another one, which led Kanematsu to shareholding in KIPG. This allows KIPG to access capital and Kanematsu's global networks, and Kanematsu is able to secure quality product and a new business. The two companies also work together to develop high-quality crops of broad beans for the Japanese market. Kanematsu now exports those beans not only to Japan, but also to other Asian markets.
- **Mitsubishi x Coogee Chemicals:** The JV to establish a new fuel terminal in SA. This partnership helps Mitsubishi achieve its goal of launching a diesel fuel supply, sales and distribution business in Australia.

5. Obtain access to partner's products/technologies/IP through licensing or acquisition or other type of agreement

Definition of this category:

Collaboration allows a participant to obtain access to its partner's product/technology/ know-how/IP in exchange for other resources such as sales networks, capital

License agreement includes granting the partner to manufacture, commercialise, market or distribute the product/technology/IP.

Some specific examples that fall into this category:

- **Fujifilm x Cynata:** Fujifilm is granted an exclusive, worldwide licence to develop, manufacture and market Cynata's stem cell product.
- **Asteria x Imagine:** Asteria intends to integrate Imagine's large scale surface sensing technology with Asteria's "Gravio" - IoT middleware product. The collaboration enables Imagine to access the Japanese market more quickly and both companies to develop higher levels of intelligence in building and infrastructure, which will contribute to building a Smart Society and help deal with an aging society.

6. Strengthening bilateral relationship - including setting collaboration framework

Definition of this category:

Australian and Japanese partners enter into a collaboration for the purpose of reaffirming and strengthening the relationship.

Australian and Japanese partners agree to collaborate in a particular industry or on a particular topic and set a framework for it.

Typically, many of the governments' collaboration agreements appear to be this type.

Australian and Japanese partners work together to deliver national level projects such as space-related projects.

Jointly host events to promote certain industry/technology/products or have discussions.

Some specific examples that fall into this category:

- **JAXA x Department of Defence x Australian Space Agency:** Recovery of the re-entry capsule of JAXA'S asteroid probe Hayabusa2. The Australian Space Agency will coordinate the licensing requirements. The Department of Defence and Defence Science and Technology Group will also assist JAXA.
- **JOGMEC x WA Government:** JOGMEC and WA government agreed to promote stable supply of mineral resources to Japan and investment in WA from Japan. JOGMEC is particularly interested in the Mt. Weld mine project, which produces rare earths as its demand is expected to increase in the future.
- **Japanese Government x Australian Government:** Australia and Japan will cooperate on research into carbon recycling technologies to use carbon dioxide as a key ingredient in manufacturing products like carbon fiber or for use in construction and agriculture. The Ministers signed this MoC at the conclusion of the "1st International Conference on Carbon Recycling". Australia also participated in the "2nd Hydrogen Energy Ministerial Meeting" in Tokyo on the same day.

7. Access to capital/funding

Definition of this category:

A collaborating partner provides capital/funding to its partner to pursue their common goal.

Some specific examples that fall into this category:

- **Nissan x CSIRO x Delta Electronics x Victorian Government:** Nissan, CSIRO and Delta Electronics work in partnership to conduct a joint solar charging research project funded by the Victorian Government. Solar charging stations manufactured by Delta Electronics that include technologies developed by CSIRO are installed at Nissan HQ in Victoria. The aim of this research is to “confirm and enhance the environmental advantages and cost savings, which come with owning an EV by maximising the use of renewable energies”. Vic Gov funds \$210,000 grant to this partnership.
- **Mitsui x Altus:** Mitsui provides Altus with a finance facility to help upgrade and construct wood pellet manufacturing mills, pellet storage and export facilities. A ten year sales agreement was also secured to meet growing demand for wood biomass in Japan.

8. Personnel training/upskilling

Definition of this category:

Collaboration provides professional/vocational training and upskilling opportunities.

A specific example that falls into this category:

- **JA Biei x Tasmanian Government:** Expand Tasmanian agricultural production and research industries. A range of Hokkaido seed stock will enable Tasmanian farmers to develop new vegetable export opportunities. Tasmania’s similar climate makes it an ideal place to grow vegetable crops for the Japanese market. Upskill both parties’ farmers and exchange knowledge.

B. Input Categories Definition

1. Capital and Funding

Collaborating partner provides capital or funding to fund collaboration project to financially help achieve a common goal. This includes investment, grant, government and industry funding.

2. Expertise including technology

Collaborating participants put their expertise towards collaboration. Expertise includes know-how, knowledge, intellectual property in certain fields or industry and technology that is built on expertise.

3. Products and Services

Collaborators provide products and/or services in exchange for other resources - often sales and distribution networks. In some cases, products are further developed through collaboration.

4. Sales and Distribution networks

Collaborating participants provide their existing sales and distribution networks, not only within Japan or Australia, but also in some cases in Asian markets, to be utilized by their partners for business expansion.

5. Materials and Resources

Collaborating partners supply materials or resources such as natural resources, raw materials needed for manufacturing for collaboration

6. Commitment to collaborate

Collaborating parties make commitment, often by signing MoUs, to pursue collaboration for a certain industry or field.

7. Human resources

Collaborating participants provide human resources. This includes secondment and exchange of staff/students and joint workshops for upskilling and training.



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