DataGene
Annual Operating Plan

2021/22

Contents

1.   Executive Summary

This document is the fifth Annual Operating Plan (AOP) prepared by DataGene and covers the period 1st July 2021 to 30th June 2022. The AOP is based on DataGene's five-year Business Plan for 2019/20 to 2023/24 and incorporates direction from the Herd Improvement Strategy 2019-2024.

The AOP is predicated on the current and expected operating environment and describes the 12-month deliverables for the company. It provides a clear line of sight on operations for the Board and ensures a focus on key deliverables over the year for management. The AOP process also enables stakeholders to have direct input into the operational priorities of DataGene and provides a full overview of the work plan for the year.

DataGene's key deliverables for 2021/22 are laid out below and reflect the priorities identified in DataGene's five-year Business Plan 2019-2024.

Table 1: 2021/22 Delivery Priorities by Strategic Priority area

Data-driven Decisions	• Integrate the Centralised Data Repository (CDR) and the iDDEN[1] data exchange hub, and leverage connection for industry value. • Support roll-out and implementation of HerdPlatform and associated tools through DataVat, and transition HerdData App to new licensing arrangements. • Complete the next phase of Centre Software re-development.
Animal Performance	• Support uptake of heifer genomic testing through Accelerating Genomics Project. • Public release of Red Breeds Genomic breeding values and improved Semen Fertility Values. • Improve reporting of genetic trends, haplotypes, breed percent and genetic test results.
Herd Improvement R&D	• Work with DairyBio and stakeholders to create an implementation plan for a sustainability metric to leverage herd improvement data. • Ensure automated connectivity for MIR spectra from lab to CDR. • Maintain Ginfo farmer participation at current levels, including classifications and genotyping.
Service Provision	• Foster collaboration with industry stakeholders through regular Standing Committees, User Groups, and other meeting opportunities. • Maintain security auditing and penetration testing of DataGene systems. • Continued delivery of quality service to external customers, including weekly runs.

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[1] International Dairy Data Exchange Network

The outlook for DataGene's financial performance is showing a similar pattern of activity between financial years 2020/21 and 2021/22 with continued effort to develop ongoing projects that deliver an income stream and benefits to the industry. The Dairy Australia Funding Agreement is forecast to provide 43% of expected income. Expenditure on salaries accounts for 50% of DataGene's total expenditure as we have strengthened our stakeholder engagement team in order to increase our interactions with stakeholders. Software development and ongoing maintenance has reduced with the movement to more a maintenance phase of our systems with a variety of other costs increasing as we move into the developing new COVID-19 normal. However, depreciation and amortisation on the significant investment in IT infrastructure are a major expense line. As always, all expenditure is tightly controlled. This budget framework will deliver a surplus EBITDA bottom-line and maintain a sound cash position.

Table 2: Financial Summary

BUDGET INCOME STATEMENT	Budget 2021/22	Forecast 2020/21 as at Apr 21
Total Income	5,604,000	5,486,000
Total Expenditure	5,414,000	5,099,000
Operating Surplus/(Deficit) excl non-cash	**190,000**	**387,000**
Depreciation & amortisation	458,000	486,000
Surplus/(Deficit) incl non-cash	**-268,000**	**-99,000**

BUDGET BALANCE SHEET	Budget 2021/22	Forecast 2020/21 as at Apr 21
Assets	7,570,000	7,920,000
Liabilities	2,537,000	2,556,000
Net assets	**5,033,000**	**5,364,000**

BUDGET CASHFLOW	Budget 2021/22	Forecast 2020/21 as at Apr 21
Cash at beginning of the financial year	1,471,000	571,000
Net cash provided by operating activities	-16,000	965,000
Cash used in investing activities	-121,000	-65,000
Cash at end of the financial year	**1,334,000**	**1,471,000**

2. Purpose

This document is the fifth Annual Operating Plan (AOP) prepared by DataGene and covers the period 1st July 2021 to 30th June 2022. The AOP is based on the DataGene five-year Business Plan for 2019/20 to 2023/24 and incorporates direction from the Herd Improvement Strategy 2019-2024. It is predicated on the current operating environment and describes the 12-month deliverables for the company. The AOP provides a clear line of sight on operations for the Board and will be a guiding document for management to focus on key deliverables during the year. The AOP process also enables stakeholders to have direct input into the operational priorities of DataGene and provides a full overview of the work plan for the year.

In general, the content of the AOP is at a summary level and a greater level of detail is within individual tracking tools for each business unit.

3. About DataGene

DataGene is owned by the dairy industry, with foundation members being Dairy Australia, Australian Dairy Farmers (ADF) and the National Herd Improvement Association (NHIA). In November 2020, total membership of DataGene was 27 members including herd test centres, genetics suppliers, genetic service providers, data service providers and breed associations.

Vision:	Mission:
Enabling farmers and industry to maximise profit through data-driven decisions.	DataGene delivers world-class genetic evaluation, software, and decision-making tools to enable Australian farmers to improve their herd and maximise their profit through data-driven decisions and innovative industry services.

Values:

1. **COMMITMENT TO CLIENTS** - We work towards shared and innovative outcomes for members and stakeholders.
2. **DIRECT, OPEN & HONEST COMMUNICATION** - We depend on genuine and sustained stakeholder engagement.
3. **INCLUSIVE** - We are genuinely inclusive and value farmer and member involvement in governance and oversight functions.
4. **INNOVATIVE** - We aim to be creative and innovative in our products and services.
5. **ENGAGEMENT WITH EMPLOYEES** - We treat our people with respect, support them in their development and value their contribution to our success.
6. **INTEGRITY & ETHICAL VALUES** - We apply best-practice corporate governance and financial management principles

3.1 Governance and Committees

DataGene is governed by a seven-member, skills-based Board. Board members are elected at an Annual General Meeting (AGM) on their knowledge and experience in dairy, herd improvement, finance, and governance. The Board must include three Directors with direct expertise in dairy farm management. Directors serve three-year terms and up to three consecutive terms (i.e., nine years in total). The ongoing rotation of Directors ensures the continuing refreshment of skills and experience on the Board.

Two Board members are due for election at the AGM in November 2021. DataGene will conduct an open call for nominations in winter 2021 for the two positions. The nominations committee will nominate the candidates who will stand for election at the AGM.

The Board and management will continue to review significant company policies according to the agreed rotation schedule for 2021/22.

DataGene's Standing Committees enable members to have direct influence over DataGene's priorities and program activities. These Committees are not simply advisory bodies, but exercise authority as delegated by the DataGene Board in areas of industry policy and guidelines. The Committees comprise individuals from within the dairy industry and herd improvement sector who possess relevant skills and experiences. Standing Committee members are either nominated by stakeholders for DataGene Board approval or appointed directly by the DataGene Board, according to the terms of reference for each Committee's structure. Each Standing Committee is chaired by a DataGene Board member and includes at least one DataGene management team member.

As part of this plan, a review of the Standing Committee structure and membership will be undertaken as several of the groups have not been active.

Table 3: DataGene Committees

Genetic Evaluation Standing Committee	Provides advice and recommendations to the DataGene Board on specialist matters in relation to genetic evaluation and related technologies. The Genetic Evaluation Standing Committee helped prioritise projects that are presented in this AOP.
Data Services Standing Committee	Provides advice and recommendations to the DataGene Board on specialist matters in relation to opportunities for new tools and services that help farmers make data-driven decisions.
Herd Test Centre Committee (HTCC)	Makes recommendations and proposals to DataGene Board and management, and respective centre Boards (or equivalent) on herd test-related matters, including software and service development. Enables collaboration on pre-competitive projects.
Data Governance Group (DDG)	The Data Governance Group is a sub-group and not one of the main Standing Committees. It exists primarily to help establish the guidelines for DataVat and works closely with the Data Services Standing Committee. In the following diagram, it is shown as not connected to the main reporting lines to demonstrate its unique position. The DDG is a technical group that develops policies and processes for the use and sharing of data. This will be increasingly crucial as DataVat becomes operational and decisions around access to, and use, of data become more complex. The Data Governance Group makes detailed technical decisions about the way data is managed, presented and disseminated to industry. There have not been any significant data access and governance in the past 12 months so this group has not been active.

Figure 1: DataGene structure
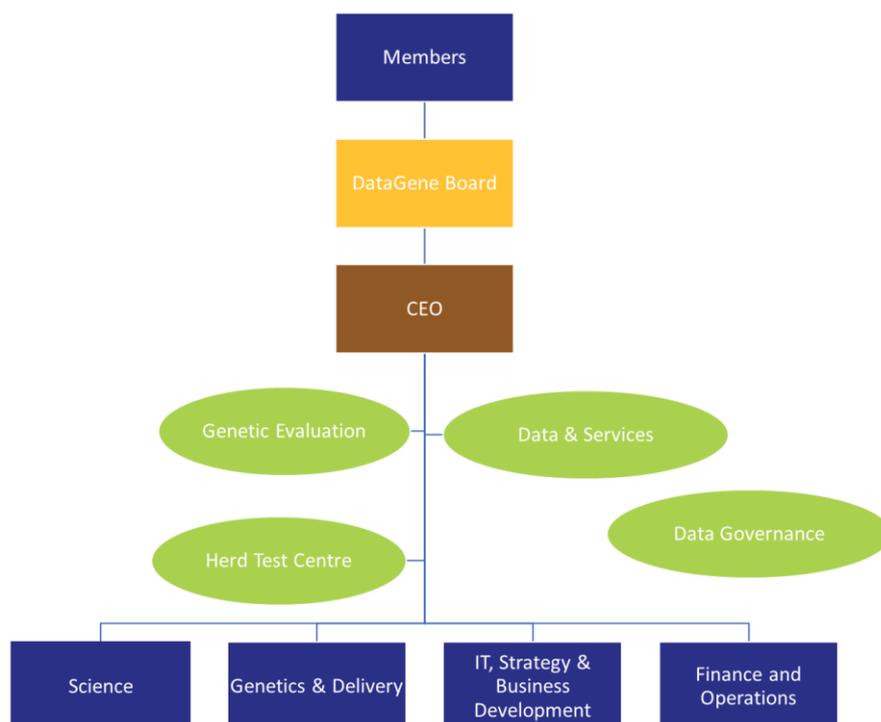
3.2 Performance Metrics

The Board and management regularly monitor a variety of performance metrics that cover the genetic merit of the national herd, the market acceptance of DataGene products and services, herd recording levels, and extension and communication reach.

Table 4: Primary metrics for DataGene

1. **The rate of genetic gain of sires of cows for BPI exceeding $18/cow/year over a 10-year period.**	In April 2021, this is currently at $22.50/cow/year over the previous 10 years.
2. **The level of female genomic testing increasing annually by at least 15%.**	Genomic testing is projected to increase by almost 25% this year, The April number, excluding research projects, is 30,826.
3. **The number of cows with phenotypes in CDR increasing annually.**	The number of cows in CDR in May 2021 has increased by over 800,000 to 14.1 million cows.

4. Our People

DataGene's organisational structure has evolved since formation and continues to refine as the company changes and grows. The management structure established by the CEO is fit for purpose to deliver DataGene's vision to the industry. Staff operate in functional areas based on the types of work completed. All staff are employees of DataGene, except for the two staff in Genetic Evaluation who are employees of Agriculture Victoria.

Central to the structure is the leadership team who work closely together and with the rest of the company to establish the DataGene culture, standards, and processes to allow the achievement of its vision. The Leadership Team is made up of the heads of the business units and other key staff (including DairyBio) and meets regularly. The AOP forms the basis for the goals of each business unit and relevant aspects are incorporated into the performance and development plans of each DataGene employee.

The Lead Science function is provided by DairyBio rather than by a DataGene employee. However, the integration of the science into the implementation framework was a key driver for the creation of DataGene. Therefore, it is important to recognise this in a management structure and institutionalise the shared planning and implementation across the organisations.

4.1 Stakeholder Relationships

DataGene collaborates with a range of organisations to enable pre-competitive actions such as data sharing, the development and conduct of research and development, extension activities, strategy development and promotion of the dairy industry and herd improvement sector.

DataGene has a range of strategic relationships, end-users, customers, and stakeholders with which it interacts at various levels:

Table 5: DataGene stakeholder relationships

Farmers	• Contribute funding via dairy farmer levies paid to Dairy Australia.
	• Use breeding values and tools such as the Good Bulls App, Genetic Progress Report, and the Herd Test Dashboard.
	• Buy DataGene products such as HerdData and Genomic Breeding Values.
	• Are a key audience for DataGene communications and marketing.
	• Supply data to drive genetic evaluation.
Service Providers, such as Breed Organisations,	• Use breeding values and tools such as the Good Bulls App, Genetic Progress Report and the Herd Test Dashboard.
	• Work collaboratively with DataGene on projects.

Herd Test Centres, etc.	• Are a key audience for DataGene communications and marketing. • Purchase DataGene services such as breeding values and software. • Are part of the industry's data pipeline. • Provide data to DataVat.
Industry Partners	• **Dairy Australia** is the primary funder and a founding member of DataGene. Dairy Australia also operates as a client of DataGene in the development of software solutions such as the updates to the Fertility and Mastitis Focus Reports.
	• **Australian Dairy Farmers (ADF)** has a key role to ensure that DataGene's priorities and activities reflect the priorities of the dairy farmer community, in addition to DataGene's many direct interactions with farmers. DataGene relies on ADF to be publicly supportive of and a strong advocate for herd improvement. DataGene also has a direct relationship with farmers through its products, services, extension, and communications.
	• **National Herd Improvement Association (NHIA)** is a founding member of DataGene. DataGene also has direct relationships with NHIA members, who are also members of DataGene.
	• **Agriculture Victoria** is a client for DataGene for certain projects; it is an in-kind contributor to DataGene in terms of supporting overhead costs for some in the Genetic Evaluation team; it is a user of DataGene data; and it is a strategic partner in its provision of research outputs to industry through DairyBio.
	• In addition, there are important relationships with non-NHIA members such as **Zoetis, Neogen, Easy Dairy** and **Apiam**. These are key relationships for the delivery of DataGene products and services and the development pipeline for new products and services, particularly as they are major clients and contributors of data, respectively. Zoetis and Neogen deliver genomic services and Easy Dairy and Apiam provide software to the vet industry and farmers. They are key collaborators for data and data services with DataVat. • DataGene also works closely with other non-members, such as the **Gardiner Dairy Foundation** on specific projects. • DataGene collaborates with **ABRI** on key IT development projects, particularly relating to herd testing reporting. • DataGene collaborates with and provides services to other industries, such as the **Cotton Rural Development Corporation (CRDC)** and the **Australian Genetic and Breeding Unit (AGBU)**
International Collaborators	• **Interbull** is a vital partner to deliver accurate breeding values to the Australian industry. • **International Dairy Data Exchange Network** (**iDDEN**) will become an important link between the Centralised Data Repository (CDR) and other dairy data sources. • **Council on Dairy Cattle Breeding** (**CDCB**) is an important partner and customer for software development. • **International Committee on Animal Recording** (**ICAR**) provides standards, guidelines, and networks to shape services. • **TMA Solutions** (DataGene's IT service partner in Vietnam) work closely with DataGene staff on developing and maintaining systems and tools for DataGene's use and for development of other products for customers.

5. Operating Environment 2021/22

The operating environment for DataGene in 2021/22 is expected to contain the typical mix of challenges and opportunities. Immediate impacts of the COVID-19 pandemic are anticipated to reduce as widespread vaccination occurs in Australia, however the economic and international impacts are expected to linger. Most significantly for DataGene, international project delivery and collaboration will continue to be affected with restrictions on face-to-face contact.

Australian cow numbers continued to fall during 2019/20, to 1.411 million cows. ABARES expectations for 2020/21 were that growth of 2% would be achieved. Only one-third of farmers surveyed in the 2020 National Dairy Farmer Survey anticipated an increase in herd size (2022–23 versus 2019–20), with just over half of farmers expecting no change to their herd size, and 9% expecting to decrease cow numbers.

Seasonal conditions in 2020/21 in many of Australia's dairy regions were extremely positive on the back of La Nina-driven rainfall. Dairy Australia expected national milk production to track towards the lower end of the current 1% to 3% growth range for 2020/21. This would equate to an annual total of between 8.5 and 8.7 billion litres. ABARES forecast in December 2020 was for Australian milk production to increase by 2% in 2020–21 to 9 billion litres with relatively flat growth in milk production out to 2024/25. The slow recovery in cow numbers and subsequent milk production impacts DataGene's largest funder by flattening the levy income of Dairy Australia.

Figure 2: Australian milk production, 1989-90 to 2024-25 (ABARES projection)

s ABARES estimate. f ABARES forecast. z ABARES projection.
Sources: ABARES; ABS; Dairy Australia

Milk price outlook remains positive with indications such as Westpac NZ lifting its forecast 2021/22 New Zealand farmgate milk price by NZ25c to $NZ7.25. Rabobank's Agribusiness Outlook concluded that there was a strong cause for optimism that profitable market settings for dairy will extend into the 2021/22 season. Increased margins could see farmers in a stronger financial position to take up herd testing and technologies such as genomic testing of females.

Changing demographics and farm practices, including more corporate farms, increasing use of sexed and beef semen, will require DataGene to continually monitor its messaging and communications channels.

Trade tensions with China are likely to continue into 2021/22 with a threat of further loss of agricultural export access. To date, the Australian export heifer trade to China has been largely unaffected. Hopefully, this continues despite other exports such as barley, wine and timber being effectively blocked. The recent decision by the New Zealand government to ban live exports from 2023 will have unknown impacts, but may, in fact, lead to greater demand for Australian heifers.

The global herd improvement industry is changing rapidly due to genomic advances and the rise of new sources of data. DataGene's industry stakeholders: breed societies, bull companies, herd test centres and data providers are all adapting to this new world in diverse ways. For example, in January 2021, Genetics Australia acquired Total Livestock Genetics (TLG) and three large European companies have announced their intention to merge. This consolidation seems likely to continue.

The Accelerating Heifer Genomics project provides significant opportunities for DataGene and other service providers including Jersey Australia, Holstein Australia, Semex Australia, ABS Australia, STGenetics, Neogen, TLG, Weatherbys and Zoetis. The aim of the project is to improve the efficiency of the pipeline and increase adoption so that 300,000 heifers are assessed annually by 2025. DataGene made considerable progress in 2020/21 in improving the genomics pipeline and is well-placed to support the project in 2021/22. The project seeks to preserve the value of testing and as such, DataGene is looking to make heifer testing a more effective source of funding for sustaining promotion and support in future.

DataGene has a track record of collaborating with stakeholders in an open and transparent manner. The necessary transition to a collaborative industry culture is well underway but will need continued work. This is especially true in terms of the transition into DataVat where companies must see the commercial interest in sharing data as well as the larger industry good. The internal capacity built over the project lifecycle will continue to deliver substantial improvements for customers. For example, working with data contributors to populate the DataVat system as rapidly as possible. This capacity also creates new opportunities to leverage the knowledge, skills and infrastructure for other projects and industries. For example, working with the Forage Value Index and potentially other livestock industries or international peers. This would enable the significant investment in Australia to be leveraged and increase DataGene's ability to provide innovative services to its Australian stakeholders.

5.1 SWOT Analysis

Strengths and weaknesses of DataGene and opportunities and threats in the wider operating environment were identified as context for the DataGene Business Plan. The results presented below, coupled with input from stakeholders, were used to prioritise the work plan presented in this AOP.

Table 6: DataGene SWOT Analysis

STRENGTHS	WEAKNESSES
• DataVat capable of housing a variety of data and enabling new services and products.	• Critical mass of data still required to fulfil the vision for DataVat.
• Strong membership base and close collaboration with herd improvement industry partners; Leader in a unique herd improvement innovation precinct. Strong international relationships.	• Dairy Australia funding may come under pressure.
• Resilient staff, in-house capability, industry knowledge and experience, committed to DataGene's mission.	• Key person dependency and burnout risks.
• Service providers increasingly supporting DataGene and promoting Australian breeding values and indices.	• Little engagement with milk companies, banks, farm advisors and other 'non-herd improvement' stakeholders.
• Standing Committees provide strong links between industry and DataGene.	• Use of genomic testing of female animals remains relatively low.
• Strong science pipeline of improvements and solid track record and progress towards foundation goals.	• Consultation with a heavily governed industry can slow development processes.
• Redeveloped Genetic Evaluation System New Platform (GES NP) provides a step-change for genetic evaluations.	• Limited resources to take advantage of technological opportunities.
	• Limited social media presence and corporate capability material that is not program-based.

OPPORTUNITIES	THREATS
• Data services and analytics through DataVat to improve decision-making and provide predictive analysis. • Upsurge in device connectivity, data volumes and computer speeds, plus rapid advances in automated systems and artificial intelligence / machine learning. • Increasing uptake of inline milk measuring tools and other sensing technologies and automatic data collection. • Traceability and production transparency services. • Changes in scale of farm operations and increased requirements for decision-making support, particularly for large farms. • Greater private sector involvement and investment farms. • Potential to leverage expertise and resources globally. • Collaboration with other Australian ag sectors, such as red meat industry. • Increased coordination to reduce duplication and improve efficiency of services. • Flexible arrangements for accessing and maintaining key expertise. • Provision of new tools for client groups, such as bull companies. • Continued engagement with industry thought leaders. • Ability to provide professional services, strategy and IT consulting services across the agricultural sector.	• Impact of COVID-19 on global markets and the domestic ramifications of this challenge. • Declining cow numbers is shrinking the markets for products and services and putting pressure on the levy. • Farm and industry profitability remain volatile. • Ongoing reduction in herd test participation; Milk recording viewed predominantly as a management tool for managing cell count, inconvenient for farmers and technologically limited. • Reliance on third party cooperation on data access; Ongoing need to maintain engagement with industry opinion leaders. • Difficulty in industry access to some phenotypic data, such as data collected from inline milk meters. • Competition in herd improvement and data services; growing use of proprietary breeding values and indices. • Need for greater efficiency and capacity to offer herd improvement services on-farm. • Slow adoption of new innovations and issues with connectivity. • Increasing activism and consumer scrutiny on how animals are treated, and milk is produced, including provenance, food safety, animal treatments, dehorning, timed AI programs, etc. • Potential pressure on live exports to China. • Challenges to extension and training in the industry; Herd test staff and others have little opportunity to improve skills and service provision through training.

Note: Above the OPPORTUNITIES/THREATS table, a partial cell is visible:

• The use of DataGene's products, such as breeding values, contributes to improved sustainability outcomes for farmers.

• Strong Business Development capabilities

6.   Strategic Priorities

DataGene's Strategic Priorities for 2019 to 2024 are laid out below and reflect the industry priorities identified in the Herd Improvement Strategy 2019-2024 and elaborated in DataGene's five-year Business Plan 2019-2024.
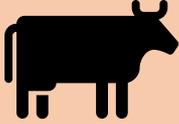
Table 7: DataGene's Strategic Priorities for 2019-24

Strategic Priority	Summary	Detail
1. **Improved decision-making from data**	• Develop and support new decision tools. • Expand and secure data. • Drive and support industry innovation.	Aims to support most dairy farmers and service providers to make data-informed decisions to drive animal performance, improve profitability and meet value chain requirements (including transparency, integrity, and safety of dairy production). It is dependent on ensuring that industry data collection, management and analytics is seamless, streamlined, and cooperative for dairy farmers and service providers. It also has a focus on increasing the measurement of individual cow performance through an increased number of cows participating in herd testing and increasing data accessed from farms with in-line meters and other sensors or data sources.
2. **Increased animal performance through herd improvement**	• Increase reliabilities. • Improve service delivery. • Increase farmer and industry service uptake. • Increase the number of genomically-tested females.	Aims to increase the number of farmers breeding replacements from Good Bulls and using Australian profitability metrics to drive herd improvement. It relies on world-class evaluation services delivered by DataGene that are market-focused, including transparent quality assurance processes, service level agreements, and regular benchmarking of services against local needs and global trends. The priority in this area is to close the gap between potential and actual genetic gain, by increasing the number of farmers using Australian profitability metrics to drive sire and heifer selection.
3. **Improved animal performance from research and development**	• Deliver new health breeding values. • Use genomics and other technology (e.g., MIR) to predict future performance.	DataGene also has responsibility within the Herd Improvement Strategy 2019-2024 in improved animal performance from research and development. Most of this accountability sits with DairyBio, however DataGene has a focus on increasing genomic technology use and working to bring MIR-based technology to market.
4. **Improved and diversified services**	• Build and maintain DataGene and industry infrastructure. • Develop and maintain industry solutions. • Establish new revenue streams.	Strategic Priority 4 has four elements: to ensure development, implementation and maintenance functions are effectively resourced and responsive to a rapidly changing environment; facilitate the uptake of appropriate technologies, and adapt them for Australian conditions where appropriate; to establish new revenue streams to support core business functions; and, fulfil opportunities for innovation, co-operation and rationalisation within the sector, particularly with regards to pre-competitive services, marketing, laboratories, transport and logistics. DataGene has a clear leadership and support role in delivering on this priority.

7. Annual Operating Plan 2021/22

7.1 Delivery Priorities for 2021/22

Table 8: 2021/22 Delivery Priorities by Strategic Priority area

Data-driven Decisions	• Integrate the Centralised Data Repository (CDR) and the iDDEN[2] data exchange hub, and leverage connection for industry value. • Support roll-out and implementation of HerdPlatform and associated tools through DataVat, and transition HerdData App to new licensing arrangements. • Complete the next phase of Centre Software re-development.
Animal Performance	• Support uptake of heifer genomic testing through Accelerating Genomics Project. • Public release of Red Breeds Genomic breeding values and improved Semen Fertility Values. • Improve reporting of genetic trends, haplotypes, breed percent and genetic test results.
Herd Improvement R&D	• Work with DairyBio and stakeholders to create an implementation plan for a sustainability metric to leverage herd improvement data. • Ensure automated connectivity for MIR spectra from lab to CDR. • Maintain Ginfo farmer participation at current levels, including classifications and genotyping.
Service Provision	• Foster collaboration with industry stakeholders through regular Standing Committees, User Groups, and other meeting opportunities. • Maintain security auditing and penetration testing of DataGene systems. • Continued delivery of quality service to external customers, including weekly runs.

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[2] International Dairy Data Exchange Network

7.2 Annual Work Plan and Outcomes

To drive improvements in key metrics, aggressive AOPs have been proposed and followed over the past few years. This continues to be true for the 2021/22 AOP, with the expectation that not all KPIs might be delivered but are presented as stretch targets. A priority rating has been assigned to make clear the key deliverables to focus on:

Table 9: Deliverable prioritisation

1	**Highest priority and key deliverables ('MUST DO')**	• A non-negotiable requirement to meet business needs. • Critical to the current delivery timeframe for the project or organisation to be a success.
2	**Medium priority and secondary deliverables ('SHOULD DO')**	• Should have this requirement if possible, but project or organisational success does not rely on it. • Important but not necessary for delivery in the current delivery timeframe. • They are often not as time-critical or there may be another way to satisfy the requirement so that it can be held back until a future delivery timeframe.
3	**Lower priority and will be delivered if resources allow ('COULD DO')**	• Could have this requirement if it does not affect anything else in the project or organisation. • Desirable but not necessary, e.g., could improve the user experience or customer satisfaction for little development cost. • These will typically be included if time and resources permit.

7.2.1. Strategic Priority 1 – Improved Decision Making from Data

Area	Activity	Completion Date	2021/22 Target/Outcome	Priority	Dependencies & Prerequisites
1.1 DataVat	Maintain, support, and enhance DataVat, including prioritized developments and upgrades.		DataVat Test Server is as close to DataVat Production as possible.	1	Availability of key subject matter experts (SMEs)
		30 August 2021	Business Requirements Document (BRD) Complete.		
		15 December 2021	Export report functions (4 reports) and Fertility Focus Report and Genetic Progress Report can be viewed on DataVat QA.		
			DataVat serves as a single platform for ABV results delivery.	1	Availability of key SMEs
		15 December 2021	BRD Complete.		
		20 June 2022	The following reports are on DataVat for each public release: NASIS all, NASIS all by breed, Ranges and means for bull ABVs, GMACE results and Interbull file, semen fertility report.		
		15 December 2021	Improve User Experience (UX): Back button, Progeny tab, Genetics tab, improved printed reports, fix Export/Semen Fertility function.	1	Availability of key SMEs
			Display national statistics on DataVat.	1	Availability of key SMEs
		15 December 2021	BRD Complete.		
		30 June 2022	Interactive national statistics displayed on DataVat.		

1.2 Coordinated Data Management	Examine opportunities around integrating other industry data sets - DairyBase, Dairy Farm Monitor, ABS data etc.	30 Jun 2022	Decision made on whether to pursue integration with other industry data sets.	3	Willingness of third parties to engage
	Expand data sources for DataVat, including integration with on farm-devices, and fostering new uses for this data.	15 December 2021	CDR connected to iDDEN data exchange hub.	1	Collaboration with iDDEN partners and third parties
		30 June 2022	Extend the schema of the CDR to enable data to flow between organisations via the API, with an early focus on Zoetis.	1	Willingness of third parties to engage
		30 June 2022	Extending CDR schema to accommodate Easy Dairy data through Herd API (additional reporting).	1	Willingness of Easy Dairy to engage and collaborate
		30 June 2022	Work with milk processors to streamline the data collection for the Milk Quality Awards and enable the data to be used for other purposes.	3	Milk processor cooperation
1.3 Herd Recording Innovation	Continue to assist herd recording centres to innovate including keeping abreast of international developments.	15 December 2021	Commercial release of Select Dry Cow Therapy tool with marketing and comms plan agreed with DA and Herd Test Centres.	1	Collaboration with Herd Test Centres, Vets and Dairy Australia
		30 June 2022	Support Herd Test Centres to launch the new herd reporting platform.	2	Collaboration with Herd Test Centres and ABRI
	Partnership model and resources to support innovative herd recording centres.	28 February 2022	Long-term Centre Strategy, BRD and Business Case complete.	1	Collaboration with Herd Test Centres and availability of key SMEs
		30 June 2022	Phase 4 delivery: Centre read/write to Herd API, move services (Holstein Australia, HerdData, industry reports, etc) to Herd API, finish printable report migration.	1	Collaboration with Herd Test Centres and availability of key SMEs
1.4 Decision Support Tools	Examine opportunities for development of tools and resources for use across value chain, e.g., milk processors, quality assurance, etc.	30 June 2022	Explore options around Milk Quality and Sustainability Reporting.	3	Collaboration with 3rd parties and availability of key SMEs

	Upgrade/Redevelopment of the GoodBulls App	30 August 2021	BRD complete.	1	Availability of key SMEs
		15 December 2021	Enhance Good Bulls App accepted and used by customers.		
	Promote tools via Extension Strategy and/or Marketing & Comms Plan.	30 June 2022	Implement DataVat Marketing, Comms and Extension Plan with agreed KPIs.	1	Collaboration with third parties
1.5 Access to Phenotypes	Maintain Ginfo farmer participation and data collection activities	30 June 2022	27,000 samples. 27,000 genotypes. 8,400 Linear Type Evaluations.	1	Willingness of farmers to participate
	Review options for getting additional data to improve semen fertility analysis	15 December 2021	Prepare a report on options to increase data available for the semen fertility analysis, including AI docket entry and dedicated collection software.	3	Availability of key SMEs

7.2.2. Strategic Priority 2 – Increased Animal Performance Through Herd Improvement

Area	Activity	Completion Date	2021/22 Target/Outcome	Priority	Dependencies & Prerequisites
2.1 Use of Australian Metrics	Develop a strategy for smaller breeds and sub-sections sections of industry	30 September 2021	Strategy for smaller Breeds and sub-sets of industry, including Sub-tropical and low-input systems agreed with industry and Dairy Australia.	2	Third party engagement, including herd improvement industry and Dairy Australia/RDPs
	Continued implementation of extension strategy targeting bull selection	30 June 2022	Ongoing increase in reseller use of BPI. Integration of DataGene extension resources to company marketing materials. Evidence of BPI use continues to increase.	1	Third party engagement, including herd improvement industry and Dairy Australia/RDPs
	Implement agreed changes to ABV publication rules	15 December 2021	ABV publication rules are updated.	2	Availability of key SMEs

	Parent average is calculated and published for herd owner	30 June 2022	A standard approach to calculating parent average ABVs is implemented across DataGene products.	3	Availability of key SMEs
	Review turnaround times for appropriateness	15 December 2021	A report laying out the trend in turnaround times, benchmark these against the global best practice of 28 days and make appropriate recommendations.	2	Availability of key SMEs
2.2 Increased Replacements from Good Bulls	Implement extension strategy targeting heifer selection through the Accelerating Genomics Project	30 June 2022	Genomic testing activity increases. Collaboration with Dairy Australia to develop and deliver additional extension resources.	1	Third party engagement, including herd improvement industry and Dairy Australia/RDPs
2.3 Innovation in Evaluations	Maintaining, supporting, and enhancing GESNP, including prioritized developments and upgrades.	30 September 2021	Pass key Interbull test for traits as required.	1	Availability of key SMEs
		30 June 2022	XT50 combined chip is used in genetic evaluation. Improved reliabilities for genomic traits.	2	Availability of key SMEs
		30 June 2022	New genome build used for markers.	3	Availability of key SMEs
		15 December 2021	Mendelian sampling implemented.	1	Availability of key SMEs
		31 August 2021	CDR user interface (UI) is fast and efficient to use for internal and external users, including: • Fix known UI issues (fewer clicks, back button retains selections, updates default run to latest run, allow lists in filters). • Fix issues arising.	1	Availability of key SMEs and development resources
		15 December 2021	Selected external users have access to CDR UI with appropriate permission: Animal lists; Herds; Progeny Test UI; ABV Report.	1	Availability of key SMEs and development resources

		30 August 2021	External users can access genomic service (GS) UI module, including: • Most GSP labs can load genotypes. • Genomic service providers (GSP) can load nominations.	1	Availability of key SMEs and development resources
		15 December 2021	Melbourne DataGene staff can run/manage the whole run process, including: • Exchange CDR2GESNP • Exchange CDR2DataVat • Extract Interbull files (300, 301, 700, 701) • Load MACE proofs	1	Availability of key SMEs and development resources
		30 June 2022	Final report detailing any necessary system changes to enable 300,000 per year, including BRD.	2	Availability of key SMEs
		15 December 2021	Dashboard for essential incoming and processed data.	1	Availability of key SMEs and development resources
		30 June 2022	Dashboard for processed data – additional items.	3	Availability of key SMEs and development resources
		30 June 2022	Genomic Service Providers can load new chips smoothly.	3	Availability of key SMEs and development resources
		Ongoing	Routine weekly and public runs.	1	Availability of key SMEs and support staff
	Improve and automate semen fertility analysis. Develop sexed semen fertility analysis and program.	1 August 2021	Improved semen fertility estimated and distributed. Semen fertility estimated in the CDR/GESNP system.	1	Availability of key SMEs
	Implement Australian Red Breed Genomics	15 August 2021	Phase 1: Public Australian Red Breed ABV(g)s generated.	1	Availability of key SMEs and development resources

			While the frequency is different, the Australian Red Breed ABVs are delivered to clients the same way as other breeds.		
		15 December 2021	Phase 2: The generation of Australian Red Breed genomics is integrated into 1-click for weekly delivery.	2	Availability of key SMEs and development resources
2.4 Clear Value Proposition	Automate existing genetic trend analysis for standing committee and breed organisations	15 December 2021	BRD Complete.	3	Availability of key SMEs and development resources
		30 June 2022	Trend analysis complete and communicated.		
	Upgrade/Redevelopment of corporate websites	30 August 2021	BRD complete.	1	Availability of key SMEs and development resources
		15 December 2021	Improved websites accepted and used by customers.		
	Work closely with Dairy Australia regional team to deliver messages on the value of herd improvement.	30 June 2022	Implement extension components of Accelerating Heifer Genomics project.	1	Phase I being completed and Dairy Australia funding secured for Phase II.
		30 June 2022	Implement marketing and communications plan based on 2021/22 AOP and integrated with extension.	1	Third party engagement, including herd improvement industry and Dairy Australia/RDPs

7.2.3.   Strategic Priority 3 – Improved Animal Performance Through Research and Development

Area	Activity	Completion Date	2021/22 Target/Outcome	Priority	Dependencies & Prerequisites
3.1 Increasing Genomic Technology Use	Deliver extension / Marketing & Comms messages on the value of genomic testing of female stock	30 June 2022	*See 2.4 above*	1	Third party engagement, including herd improvement industry and Dairy Australia/RDPs
3.2 New and Improved Breeding Values and Management Tools	Implement a MIR-based management report for farm use	1 July 2021	Complete BRDs for MIR-driven report, including data flow from lab to CDR.	1	Availability of key SMEs and development resources
		31 September 2021	Release MIR-driven report for Herd Test Centres to use.		
	Genomics for embryos	30 June 2022	Embryo samples successfully loaded. Embryo ABV(g)s successfully estimated and delivered. Sex of the embryo determined and reported.	3	Availability of key SMEs and development resources
	Program reporting of haplotypes	30 July 2021 30 August 2021	Requirements to evaluate and report haplotypes delivered. Full suite of Haplotypes is reported in CDR, DataVat and customer reports.	1	Availability of key SMEs and development resources
	Program reporting of genetic tests	28 February 2022	BRDs to report animal genetic test results delivered.	3	Availability of key SMEs and development resources
		30 June 2022	Animal genetic test results are reported in CDR, DataVat and customer reports.		
	Create an implementation plan for a sustainability metric	30 September 2021	An implementation plan for a sustainability metric.	1	Dependent on DairyBio science outcomes
3.3 Improved Genetic Evaluation Methodology	Prepare for single-step Jersey	30 June 2022	An implementation plan prepared for single step genomics for Jersey.	3	Availability of key SMEs

7.2.4. Strategic Priority 4 – Improved and Diversified Service Offerings

Area	Activity	Completion Date	2021/22 Target/Outcome	Priority	Dependencies & Prerequisites
4.1 Shared Infrastructure and Capability	Develop, support, and maintain DataVat	30 June 2022	*See 1.1 above.*	1	
4.2 Adequate Support Functions	Ensure appropriate DataGene staff and Board capability to deliver support.	30 November 2021	A professional selection process results in the election of directors at the AGM.	1	Appropriately skilled applicants
		30 June 2022	Ensure all staff have the opportunity to visit with farmers, connect better with data, herd improvement, breeder chat. Staff should be familiar with top bulls. Staff to visit farms and herd test centres.	2	
		15 December 2021	All tasks relating to genetic evaluation and comms/extension have at least two staff members capable of undertaking them	1	
		30 June 2022	Development and training needs assessed and acted upon.	1	Matching resources to need
	Ensure appropriate IT and Business infrastructure	30 June 2022	Implement the feedback from previous Security Audit and pass a new audit.	1	
		30 June 2022	Disaster Recovery Plan maintained and tested.	2	
		31 March 2022	Internal Data Governance Review which describes current structures, needed structures and process for making change.	2	
		30 September 2021	Mitigate key dependencies on individual TMA Solutions (software outsourcing company) staff:	1	Availability of key SMEs and development resources
		31 March 2022	Identify TMA Solutions dependencies and create mitigation plan.		

			Complete mitigation work to remove key dependencies on TMA Solutions.		
	Review quality and level of support with all industry partners.	30 June 2022	Hold a minimum of two meetings of the Herd Testing Standing Committee.	2	Continued interest of Herd Test Centres
		30 June 2022	Hold a minimum of two meetings of the Genetic Evaluation Standing Committee.	1	
		30 August 2021	Review Composition of Genetic Evaluation Steering Committee (GESC), including need to have a member from a Genomic Service Provider.	1	
		15 December 2021	Review Standing Committee structure and membership.	2	
4.3 Coordinated Service Development	HerdData App is transitioned to new delivery model	31 March 2022	Explore options and finalise the transition of HerdData from DataGene marketing to industry marketing or retire the App.	1	Dependent on contract negotiations and continued focus from herd test centres
	Deliver Milk Quality Awards	30 June 2022	Deliver Milk Quality Awards under contract from Dairy Australia.	1	Willingness of third parties to collaborate
	Review customer engagement strategy & implement improvements.	30 June 2022	Maintain communication with users of DataVat, Centre, HerdData and the website, including any necessary training in use of GES NP and DataVat.	1	
4.4 Expanded Collaboration	Implement sales & marketing plan for international sales of DataGene products and services.	30 June 2022	Maintain at least two external clients with contracted projects.	1	Ability to identify opportunities
		30 June 2022	Successfully contribute to Digital Strategy for the Australian Cotton Industry project.	1	
	Deliver Forage Value indices for Perennial, Annual and Italian ryegrasses	15 December 2021	BVs estimated for the three types of pasture and regions.	1	Willingness of third parties to collaborate
	Improve Ginfo farmer participation and data collection activities	30 June 2022	Annual check in call for individual support especially read genomic results.	1	Willingness of third parties to collaborate

	Upskilling herd improvement advisors re DataVat	30 June 2022	Training sessions conducted for herd improvement advisors (groups within organisation).	1	Willingness of third parties to collaborate
	CDCB Web Connect	15 December 2021	Deliver the WebConnect project for CDCB.	1	Availability of key CDCB SMEs
	CDCB EDCLOB	30 June 2022	Begin EDCLOB/EDITS project with CDCB	1	Availability of key CDCB SMEs and willingness to collaborate

8.   Marketing & Communications

With the Strategic Priorities clearly in mind, DataGene's delivery priorities are developed with its stakeholders and Board, while the actual delivery of products and services is driven by management and staff. There are both direct and indirect channels for delivering products and services to DataGene clients, only some of which are monetised.

Table 10: Channels for DataGene products and services

Channel	Industry-good	Monetised
Direct	• Good Bulls Guide and App • DataGene website • DataVat / HerdPlatform	• ABV(g) reports to Service Providers. • Bull proofs to bull companies. • Project management services to external clients. • Centre and Inventory Software to service providers. • Software development services to external clients.
Indirect	• Herd Test Centre distributors of the Herd Test Dashboard • Extension messages through RDPs to farmers • Extension messages through Service Providers to farmers	• Herd Test Centre distributors of the HerdData App

Marketing and communications have been identified for several years as key priorities for herd improvement. DataGene's marketing and communications plan is aligned to the deliverables coming out of the AOP, corporate communications need, and support required for DataGene's extension program.

DataGene's main communications objectives focus on encouraging the use of Australian Breeding Values and indices; promoting the use of herd recording and data collection; supporting the launch and continued use of new services, products, and tools for industry; and building awareness of the DataGene brand and reputation. A variety of collateral, resources and delivery vehicles are used to achieve these objectives. DataGene also collaborates with other key players (including Dairy Australia, DairyBio and agribusinesses) to support the delivery of clear, consistent herd improvement messages across the industry.

The target audiences for DataGene's marketing and communications are varied and have diverse needs. Some examples include farmers, from elite breeders to the non-interested, members, herd improvement industry service providers, collaborators, industry bodies. Available market segmentation and farmer survey work offer useful insight into the dairy farmer segments and can help inform the creation of campaigns.

During 2021/22, DataGene will continue to support the communications and extension messages in the Accelerating Heifer Genomics Project. The aim of this project is to improve the efficiency of the pipeline and increase adoption so that 300,000 heifers are evaluated annually by 2025. To achieve this very rapid adoption of genomic testing of heifers will require a concentrated and sustained focus on the value proposition of testing to farmers and industry partners.

DataGene will collaborate with the Herd Test Centres to promote the Herd Test Reporting Platform and encourage and support its use by dairy farmers. Communications and extension activities will be led by the Herd Test Centres, with supporting DataGene messaging and promotion of the platform and other DataVat tools and functionality, such as the Genetics Futures Report and Selective Dry Cow Treatment tool.

Routine communication and extension activities will continue to focus on building awareness of critical herd improvement messages such as bull selection, the value of Australian metrics, changes to the NBO, and promotion of DataVat.

9. Financial Outlook

Budgeting for 2021/22 had the goals of achieving surplus earnings before interest, taxes, depreciation, and amortization (EBITDA), maintaining a sound Balance Sheet, and the continued realisation of a fiscally prudent cash reserve.

These outcomes are based around budgeted income from Dairy Australia in accordance with the current Funding Agreement, ongoing fees for genetic service, centre services, export heifers and continuing project work for CDCB, the Cotton Research and Development Corporation (CRDC), Food Agility and other parties. The expenditure budget has been contained to deliver these goals and cash reserves will be adequate based on these actions.

Actual performance compared to budget will be reviewed regularly to ensure delivery of the financial goals. Additional changes to expenditure to mitigate any shortfall in expected revenue would be instituted by management in a timely manner.

9.1 Assumptions

The financial outlook has been prepared using the following assumptions:

1. The industry can operate close to 'business as usual' under the State and Federal restrictions around COVID-19 but there is reduced travel (particularly international) compared to previous financial years.
2. Not all new project income has been identified at this stage. Historically the team has been able to deliver new projects over the 12-month period to fill this income gap.
3. A stable workforce with strong staff retention.
4. Maintenance and refinement of GESNP, CDR and DataVat will continue to occur.
5. Continued export heifer activity at historic average levels

9.2 Income Statement

In general, budgeted income is at a similar level to the forecast previous financial year. Expenditure on salaries account for 50% of the total expenditure excluding depreciation and amortisation as we have strengthened the stakeholder engagement team. Software development and ongoing maintenance has reduced from the previous year with the movement into a maintenance phase of our systems. A variety of other costs are expected to increase as we move out of COVID-19 restrictions. All expenses will be tightly controlled. This budget framework will deliver a surplus EBITDA bottom-line.

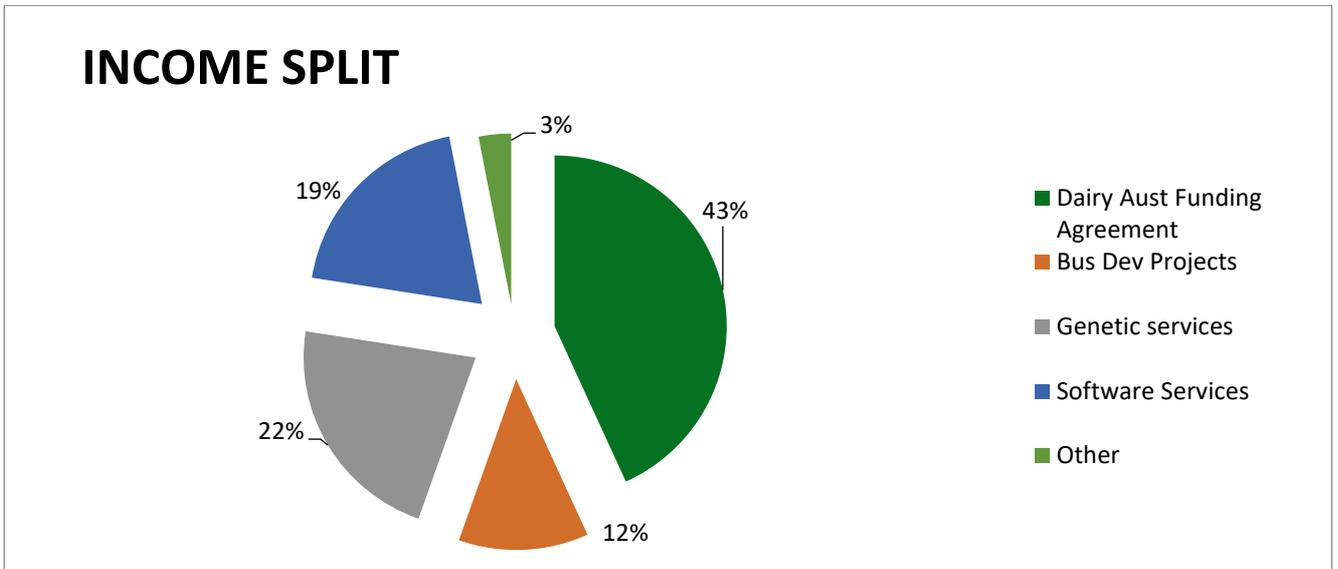DataGene has four primary streams of revenue:

- Core funding from Dairy Australia via the current Funding Agreement which runs to June 2024.

- Semen companies and farmers paying for genetic evaluation services.

- Herd improvement companies paying for Centre and related software.

- Customers paying for projects delivering improved software, tools, reports and/or services.

The goal remains to maintain the diversified revenue streams.

Genetic evaluation services budget of $1,257k comprises service fees associated with ABV(g), pre-determined access fees, new calf testing, NASIS registrations and workability.

Software Services, which includes IT development projects for third parties, is primarily generating revenue through the continued major development project with CDCB. The IT development projects require a mixture of existing staff skills and offshore development resources which DataGene project manages. During the previous three financial years DataGene has generated new projects of similar value to that appearing in this budget. The major risk lies with the unidentified new project income. Management has clear strategies in place which will be implemented to mitigate this shortfall risk should it materialise.

Figure 3: Income sources 2021/22

INCOME SPLIT

- Dairy Aust Funding Agreement — 43%
- Bus Dev Projects — 12%
- Genetic services — 22%
- Software Services — 19%
- Other — 3%

As demonstrated in previous financial years, expenditure will be monitored carefully in line with income and adjusted accordingly to maintain a sound financial position.

Salaries and associated costs remain the largest expenditure item and equate to 50% of the total expenditure including depreciation and amortisation. Staff retention remained strong through the COVID-19 period. Consultants' expenditure includes costs incurred for calf testing which will offset revenue for calf testing. Software development captures the costs to maintain GESNP, CDR, and DataVat plus work undertaken with customers such as CDCB. Ginfo has moved into a maintenance phase following the efforts to deliver an increased number of herds in past financial years. Communications activities remain particularly important All other expenditure is at similar levels to the previous financial year.

Figure 4: Expenditure categories 2021/22

EXPENDITURE SPLIT

- Consutants inc calf testing and Ginfo — 15%
- Marketing & Communications — 3%
- Memberships — 1%
- Office accommodation — 5%
- Software development & maintenance — 17%
- Software licences and IT Support — 2%
- Salaries & employment incl Directors — 50%
- Operating & other — 6%
- Travel — 1%
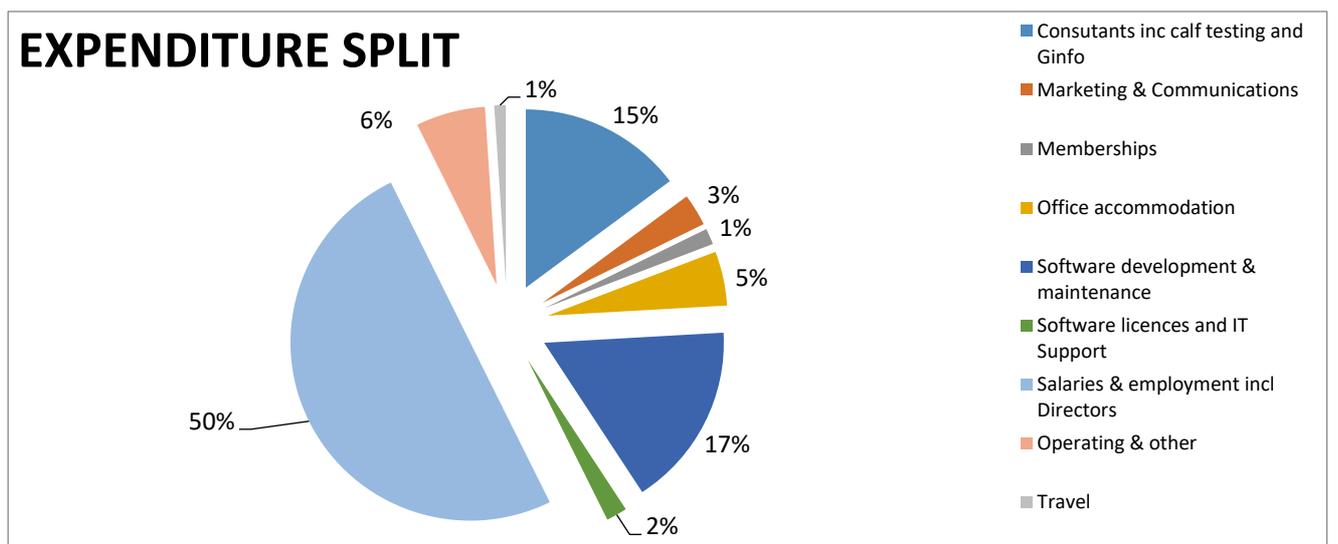
Table 11: Income Statement 2021/22

INCOME STATEMENT BUDGET	2021/22 Budget	2020/21 Forecast as at Apr 21
INCOME		
Dairy Aust Funding Agreement	2,421,000	2,425,000
New Business	683,000	268,000
Genetic Evaluation Services	1,237,000	1,220,000
Software Services	1,092,000	1,337,000
Membership Fees	0	5,000
Misc income and interest	73,000	126,000
Rent contribution	98,000	105,000
TOTAL INCOME	5,604,000	5,486,000
EXPENSES		
Consultants inc calf testing and Ginfo	806,000	790,000
Marketing & Communications	158,000	161,000
Memberships	79,000	75,000
Office accommodation	268,000	212,000
Software development & maintenance	910,000	980,000
Software licences and IT Support	103,000	119,000
Salaries & employment incl Directors	2,723,000	2,546,000
Operating & other	310,000	201,000
Travel	57,000	15,000
TOTAL EXPENDITURE	5,414,000	5,099,000
NET SURPLUS/(DEFICIT) FROM OPERATIONS	190,000	387,000
Depreciation & amortisation	458,000	486,000
SURPLUS/(DEFICIT) INC NON-CASH	(268,000)	(99,000)

As shown above the budget income statement shows an EBITDA surplus. However, on a full accrual accounting basis, taking into account depreciation and amortisation, the bottom line is a deficit. Depreciation and amortisation reflect the significant investment made into core IT infrastructure to create the genetic evaluation system, the CDR and DataVat. These core infrastructure pieces underpin DataGene's ability to deliver service to the industry.

Figure 4: DataGene Financial Outlook

DATAGENE FINANCIAL OUTLOOK

Legend:
- INCOME
- EXPENDITURE excl Dep & Amortisation
- CASH RESERVES
- EBITDA
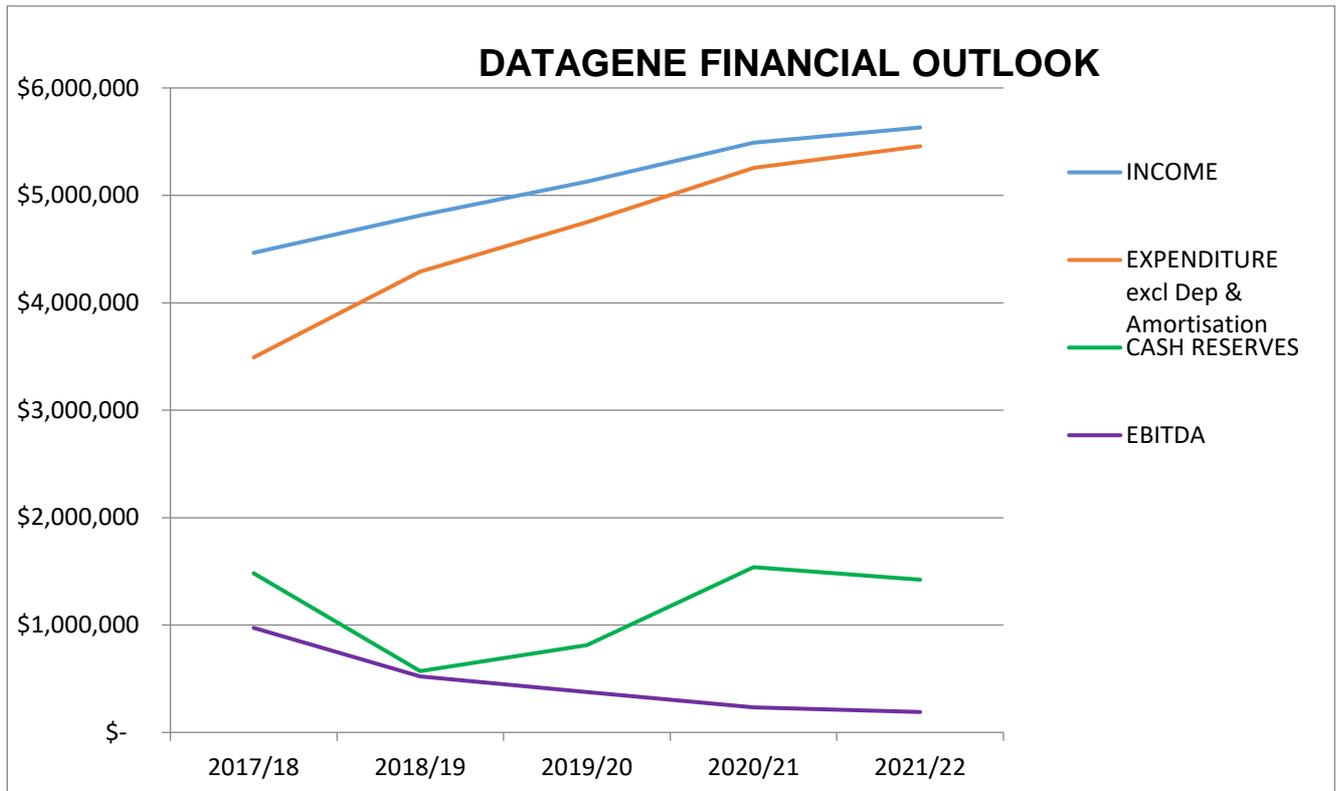
9.3 Balance Sheet and Statement of Cashflow

The cash reserve position in the Balance Sheet at the end of 2021/22 is expected to be around $1,334,000. This positions DataGene very well for the future.

During the year there will be investment into new servers plus storage expansion trays to support weekly ABV runs. $121,000 has been budgeted for these purchases.

Table 12: Balance Sheet 2021/22

BALANCE SHEET BUDGET	2021-22
Current Assets	
Cash and cash equivalents	1,334,000
Receivables	625,000
Other assets	65,000
Total current assets	2,024,000
Non-current Assets	
Intangible assets	4,146,000
Lease assets	957,000
Property, plant and equipment	4443,000
Total non-current assets	5,546,000
Payables	895,000
Lease Liabilities	1,049,000
Provisions	593,000
Total liabilities	2,537,000
Net assets	
Assets	7,570,000
Liabilities	2,537,000
Net assets	5,033,000

Table 13: Cashflow 2021/22

Cash flow from operating activities	
Receipts from clients	
DA Funding agreement	2,663,000
Receipts from services	3,386,000
Other	2,000
Payments to suppliers and employees	
Salaries	2,434,000
Operating	3,375,000
Net cash provided by operating activities	242,000
BAS In/(Out)	(258,000)
Cash flow from investing activities	
Payment for property, plant and equipment	(121,000)
Payment for other non-current assets	-
Cash used in investing activities	-
Net increase / (decrease) in cash held	(137,000)
Cash at end of the financial year	**1,334,000**

10. Risk management

DataGene's risk management framework has been in place since 2017 and provides an efficient mechanism for Board and management to monitor and address risks. It is updated at least monthly and reviewed at each Board meeting and each Leadership Team meeting. As part of this year's review, of the 22 risk categories identified, five risks have been called out as high priority for mitigation in this AOP. These are presented below, along with their mitigation strategies and the risk number from the May 2021 Risk Register:

Table 12: High priority risks for 2021/22 AOP

Risk #9: DataVat User Risk	Likelihood	Consequence	Rating	Residual Risk
	Possible	Major	Very High	High

Context, Cause and Consequences:

There is some risk that data providers do not implement the necessary changes within their own systems or processes to provide data to and allow access to DataVat. If key data providers do not do so, this would ultimately reduce the effectiveness of the DataVat.

Issues around data security and privacy of data need to be dealt with to the satisfaction of all users to ensure they participate in DataVat.

Controls, mitigations, and management actions:

Early and continued communication with the providers will ensure alignment and awareness of the project. The single point of animal information will be of significant benefit to all of them as their clients are requesting such connectivity. This will incentivise them to implement the necessary changes. In addition, the connection tool will allow DataVat to talk to any system using almost any format, which will reduce the need to significantly change early in the process.

Development and operation of DataVat will comply with ongoing compliance obligations under Australian Privacy Principle (APP) 1.2. DataGene will undertake penetration tests and security audits on a regularly scheduled basis. Integration with the HerdPlatform, support from the Accelerating Genomics Project and work with the Ginfo farmers helps to mitigate this risk.

Risk #15: COVID-19	Likelihood	Consequence	Rating	Residual Risk
	Almost Certain	Moderate	Very High	High

Context, Cause and Consequences:

The impact of COVID-19 and the resulting social distancing and potential illness has become apparent over the last 12 months. While working remotely has worked for the group, the transition to the new normal hybrid model will come with challenges. The ongoing impact on our clients, from farmers to service providers, is unclear at this stage but seems to be more limited than feared. The volume of genomic testing and export heifers could be impacted. Social distancing will make our stakeholder engagement more challenging, especially client interaction and workshops. There are also potential impacts on our service providers, particularly TMA and ABRI, if staff become ill or business is suspended. If developers are unavailable, we will experience time delays.

Controls, mitigations and management actions:

Continual engagement with staff, the Board, members, funders, customers, and service providers will be very important to maintain strong connections across all groups. Flexibility, proactiveness and resilience will be the keys in responding to changing and challenging circumstances. Scenario plans are in place should any key stakeholders become unavailable. Interaction with stakeholders will be maintained with new mechanisms explored to encourage ongoing communication. Ongoing work with TMA management to ensure that key skills are shared across team members.

Risk #16: Personnel Risk	Likelihood	Consequence	Rating	Residual Risk
	Possible	Major	Very High	High

Context, Cause and Consequences:

A key risk to the ongoing operations of DataGene Centre software is the loss of key personnel. Retaining staff who combine both knowledge of the Delphi programming environment and the specifics of the Centre application is important, especially during the transition. In the short term, the loss of the key programmer would require additional resources to mitigate.

Loss of key personnel in the ABV team or the senior management level also produces a risk of relationship, knowledge and capability loss to DataGene.   Staff are at risk for burnout after a sustained effort to finalise GESNP and DataVat.

COVID-19 introduces new risks to the organisation through significantly more staff working from home and in potential steps needed within the office for social distancing.

Availability of key SMEs and development resources - DataGene has a strong reliance on in-house capability, industry knowledge and experience. This subject matter expertise is extremely specialised and in high demand for many of the tasks identified in the annual workplan.

Controls, mitigations, and management actions:

Overall, the risk to DataGene Centre software is mitigated in the medium term by integration into DataGene so that there is a wider skill set available within the organisation and less reliance on individuals. A transition to common tools will increase the availability of programmers with appropriate knowledge. Additionally, the relationship between DataGene and all its employees should be strongly established and regular reviews performed.

The more general risk from the ABV team and senior management is mitigated by ensuring there are multiple people able to perform critical tasks and by constructing a Leadership Team capable of maintaining key functions and relationships after any departures.

Work with staff is ongoing around morale and providing staff with time away from work to recover energy levels.

Close monitoring of guidelines laid out by appropriate authorities and frequent engagement with staff ensure transparency. Staff understanding of work station requirements at home have been communicated and additional support offered.

DataGene document its policies, procedures, approaches, and methods to allow others to quickly come up to speed if key staff are unavailable (either temporarily or permanently). DataGene also documents project plans and workplans and ensures that they can be easily found and shared.

DataGene staff work in small teams and share the work wherever practicable. This enables the development of staff with multi-skills and exposure to several projects wherever possible.

Risk #18: Technology and Software Risk	Likelihood	Consequence	Rating	Residual Risk
	Unlikely	Major	High	Medium

Context, Cause and Consequences:

Inappropriate selection of either hardware or software for the DataVat project would potentially result in a system that is not fully functional or does not meet all delivery requirements. Reduced functionality would mean that the full benefit of the development would not be realised, potentially leaving out key data sources for DataVat or missing key functionality.

Controls, mitigations, and management actions:

A Solution Architect completed a full systems architecture review which ensured that the technical solution for GES NP and DataVat are robust, scalable, and fit for purpose. This delivered a detailed solution design for the GES NP – DataVat solution and a technical strategic roadmap for the next 5 -10 years.

The technical solution has been assessed by independent IT expertise (SMS Consulting) with extensive experience in projects of this scope and complexity.

DataGene IT will conduct an annual technology review, including use of physical and web enabled services. The annual technology and architecture report will propose the most appropriate use of physical assets in our data centre and consider where and how to use Web Services such as Amazon.

The report will consider performance, sizing (storage and operational space) and costs. There is also significant alignment to the privacy and security risk mitigation strategies.

Risk #20: Privacy and Security Risk	Likelihood	Consequence	Rating	Residual Risk
	Possible	Major	Very High	High

Context, Cause and Consequences:

DataGene is non-compliant to APP principles and exposed to reputational impact, data or code ransomware could be deployed against us and confidential data could be made available to 3rd parties without consent.

Controls, mitigations, and management actions:

DataGene will comply with ongoing compliance obligations under Australian Privacy Principle (APP) 1.2. All 13 APP principles will be reviewed and appropriate actions against each identified. A DataGene Privacy policy is maintained to communicate compliance and identify where additional work is required.

DataGene will undertake annual penetration tests and security audits and publish results to the Board and upon request to members. All appropriate technology and process controls will be applied to minimise or remove any associated impacts.

All security updates will be made in a timely manner to minimise risks identified by third party software and hardware vendors.

10.1 Insurance

DataGene insurances are placed through a broker to obtain the best possible policies and market prices with reputable insurance companies. Renewal is during July each year. The current policies are as Business Insurance, Public Liability and Product Liability, Directors and Officers (D & O) Insurance, Professional Indemnity Insurance, and Cyber Insurance.