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Earnings Call

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Call Participants

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Presentation

Operator

Good morning, ladies and gentlemen. Thank you for joining us today for IPA's Earnings Call covering the Fourth Quarter and full Fiscal Year of 2023. I am Regina, and I have the privilege of hosting this call.

Before we commence, I would like to draw your attention to the fact that our discussion today may include forward-looking statements. These statements are subject to various risks and uncertainties that could cause actual results to differ materially from those expressed or implied in our statements. We encourage you to review our filings with the Securities and Exchange Commission for a comprehensive discussion of these risks and uncertainties. IPA remains committed to complying with legal requirements and will update forward-looking statements only as mandated by law.

During today's conference call as well as in the accompanying presentation slides, we will be employing non-GAAP financial measures to assist investors and analysts and comprehending IPA's business performance, adjusted EBITDA, in particular, allows for meaningful comparisons and analysis of trends in our business over different periods. For a detailed explanation and reconciliation of these non-GAAP measures to GAAP measures, please refer to the Management Discussion and Analysis section of our filings on EDGAR and SEDAR.

Now without further ado, I would like to pass the floor to IPA's CEO, Dr. Jennifer Bath, who will provide an overview of our quarterly results.

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Thank you, Regina. During today's call, we aim to provide you with a clear and comprehensive understanding of IPA, our company. And how we are strategically positioning ourselves as leaders in the field of AI and antibody therapeutics.

At ImmunoPrecise Antibodies, we are consistently paving the way as pioneers in technology, positioning our company as a front in innovation. Our mission is to harness the potential of data-driven AI and cutting-edge laboratory technologies to deliver groundbreaking solutions. We set ourselves apart by employing patented technologies and trade secrets that provide unparalleled insights into the realm of biological data.

Let's begin today's call by highlighting the significant achievements and developments of the past fiscal year. These key milestones not only showcase our unique position in the market, but also reflect the progress we have made over the last 12 months. I'm thrilled to share that in Q4 fiscal '23, IPA reached a significant milestone by achieving a record revenue of \$5.6 million. Demand, which is continuing to build. Moreover, we are proud to report that in fiscal year '23, it was a strong year with total revenue reaching \$20.7 million, representing growth of 6.7% year-over-year, which equates to 9% when adjusting for the effects of currency translation. These outstanding accomplishments highlight our dedication to delivering exceptional service, the high demand of IPA's offerings, and our ability to maintain stability in the face of prevailing market conditions.

Building on our strong momentum, IPA continued its positive trend in Q4. Securing a healthy \$4.65 million in sales orders for fee-for-service work now followed dramatically with a record-breaking impressive \$3.51 million from the month of June alone, which as Barry will share shortly, is a staggering 47% from the previous time point, 1 year prior. This is a testament to the market's confidence in our capabilities and the ongoing high demand for our services, which have reliably translated to quarter-over-quarter growth. It further reinforces our optimistic outlook for revenue growth moving into this new fiscal year.

Regarding our subsidiary, Talem. After a strategic review, we made the decision to consolidate our programs and discontinue investments in earlier-stage assets. Instead, we redirected our efforts toward enhancing 3 key programs that we believe holds significant value. Currently, these programs each are

the focus of active discussions from industry prospects, which we will elaborate on further in today's call. Furthermore, Talem has demonstrated its ability to adapt to the changing market landscape.

We have strategically shifted our focus toward partnering discussions with larger corporations, aligning with the recent trends in capitalization and restructuring challenges faced by pipeline companies. This approach allows us to navigate the industry's dynamics more effectively to capture valuable opportunities. Throughout the past year, we have achieved significant milestones that demonstrate our unique position in the market. Firstly, Talem entered into an exclusive research collaboration and license agreement with Astellas Pharmaceuticals. This collaboration aims to develop antibodies targeting a novel tumor microenvironment protein with Astellas having an exclusive option to license these antibodies for therapeutic development, including CAR-T therapies. This partnership is the result of extensive due diligence and collaborative efforts, further validating the universal nature of BioStrand's HYFT technology. Additionally, IPA Europe's human phage display and humanization offerings have gave impressive financial momentum.

We have bolstered these offerings with newly generated phage libraries and a modernized workflow incorporating next-generation sequencing. This expansion has not only increased the potential for HYFT accessible sequence data but has also attracted a surge in request for VHH-based discovery programs, opening new revenue opportunities for IPA. Furthermore, we have expanded on our single B cell screening capabilities to include species from the camelid family. Our novel techniques in this area have proven highly successful. Leading to increased demand for VHH-based discovery programs and contributing to IPA's revenue growth and reputational leverage.

In terms of integrated revenue stream, we have 3 core pillars, which we will elaborate on today. To give you an initial glimpse. The first pillar in silico technologies combined with existing Wet Lab services are increasingly revenue-generating with undeniably attractive trends. We have generated close to \$790,000 in BioStrand-specific service quotes with over 80% of those quotes issued within the past 6 weeks. The second pillar is our in silico de novo antibody discovery and development partnerships, which offer revenue potential through upfront payments, milestones and royalty payments. With milestone payments alone ranging from up to approximately USD 60 million to USD 400 million. You will receive some [indiscernible] updates on these exact endeavors in today's call. Lastly, our data organization and management platform represents an exciting upcoming revenue stream and we are thrilled to be able to share more information on this eventual SaaS model with you today for the first time.

In conclusion, our innovative revenue streams, valuable partnerships and expanded market reach have allowed us to achieve record-breaking revenues. We are committed to driving continued growth and success through our unwavering dedication to innovation by harnessing the power of AI, our HYFT technology and our esteemed laboratory discovery Bio platforms. We have created a legacy paradigm that integrates any biological data with lightning speed, with reduced energy and unparalleled insights.

Our software development enhancements, advancements and ability to solve the information integration dilemma, have further supported our growth as the future leaders in this industry. We are excited about the opportunities that lie ahead and look forward to disseminating these exciting updates to you, our investors, throughout various media channels on a regular basis as we continue to rapidly solve biological enigmas and bring you case-based evidence to validate our advancements.

I'll now turn the microphone over to Barry Duplantis for updates on client relations and business development.

Barry Neil Duplantis

Vice President of Client Relations

Thank you, Jennifer. As many of you may know, and as Jennifer has just previously mentioned, IPA presently operates with 3 primary sources of revenue. Broadly classified as fee-for-service, including product sales, out-licensing of preclinical assets and non-fee-for-service partnerships. In the past, IPA primarily maintained separate teams for fee-for-service sales and business development endeavors. However, in fiscal year '23, we have adopted a more integrated and comprehensive approach to enhance

our outreach capabilities and ensure that we capture any and all opportunities. In this update, I will provide an overview of each of these revenue streams.

The team has actively participated in several conferences and asset-specific partnering summit, hosted IPA collected events held in major biotech hubs and engaged in on-site visits to build strong client relationships. These outreach efforts and events have been made possible by the addition of 2 highly effective sales team members in key geographic regions who have greatly contributed to establishing IPA's industry-leading technical sales team.

Throughout fiscal year '23, we have seized every opportunity to present our global value proposition. And as the year progressed, we have been able to showcase how IPA is disrupting the current discovery paradigm. This has been achieved through the ongoing integration of BioStrand's proprietary technologies, which have significantly enhanced our technical output. The inclusion of BioStrand's expertise has further strengthened our position and allowed us to demonstrate how we are pushing boundaries of the industry.

The conventional approach to antibody discovery and development follows a linear funnel model, where the value of an asset increases along with the corresponding expenditure in Wet Lab activities. Simply put the cost of failure for an asset, both in terms of finances and time escalate significantly with each phase of the program, accumulating in multimillion dollar expenses associated with clinical trials. IPA has always been at the forefront of therapeutic development, thanks to our function first workflows, we mitigate risk by providing our partners with crucial Wet Lab data early in the discovery process, ensuring that the most promising candidates are prioritized and advanced.

With the integration of BioStrand technologies, IPA can extend its function first workflow beyond the wet lab to incorporate antibody sequences.

Our integrated in silico multi-parametric screening and assessment is highly scalable and cyclical, allowing IPA to move away from the traditional linear triage funnel approach. We incorporate what was once considered late-stage lead candidate development processes such as humanization, immunogenicity assessment and liability evaluation early in the cycle. By integrating our in silico services, we are revolutionizing early-stage triaging and working towards eliminating costly attrition associated with poor lead candidate selection. Furthermore, apart from the exceptional services we provide, we're also extremely enthusiastic about the business prospects of our in silico work.

These services offer several advantages, including rapid revenue recognition and higher profit margins. Moreover, they act as catalyst and attracting clients to our Wet Lab services, resulting in a desirable feedback loop. The combination of our cutting-edge and in-silico capabilities and wet-lab expertise creates a compelling value proposition that drives business growth and customer satisfaction.

Based on our expected sales cycle, the impact of the fiscal '23 sales efforts began to materialize in the second half of the year, with 3 of our top sales order months occurring during this time frame. Once again, while the sales orders are signed commitments to future antibody discovery-based work and do not encompass our stand-alone protein production revenue from IPA Europe [indiscernible] track, they are a useful metric in forecasting even though they may not correlate perfectly with future revenue.

While we acknowledge the June 2023 is Q1 of fiscal year '24. The cumulative efforts of fiscal year '23 have resulted in a remarkable monthly sales order record of \$3.51 million. This represents an impressive 47% increase over the previous higher record sales order month. The most recent bump can be attributed to growth in our core services and a surge in both phage and humanization offerings. In the last 4 months, we've initiated 11 phage-based programs as compared to 6 programs in all of fiscal year '22. In the past 6 months, we've secured greater than \$1.2 million in sales orders for humanization services solidifying the industry's movement away from transgenic animals.

Regarding revenue, as Jennifer mentioned, IPA has achieved notable milestones. In Q4, the company recorded an impressive revenue total of \$5.6 million, marking the highest quarterly revenue to date. Additionally, the annual revenue for fiscal year '23 reached \$20.7 million, reflecting a solid 6.7% increase compared to fiscal year '22. The sales order and revenue results highlight our strong momentum, consistent growth and ongoing success in generating revenue.

Moving on to the fee-for-service offerings. Our asset out-licensing efforts have obviously been a major focal point for our business development team and our proactive approach has yielded significant progress. We have implemented a comprehensive tracking sheet for each program and contact, which enables us to maintain detailed records of all communications, updates and specific requirements related to each program. This systematic approach ensures effective communication and a tailored approach for each targeted company. As a result of our strategy, we have initiated discussions with key decision makers in over 300 companies regarding our non-PolyTope Talem assets. These conversations have enabled us to identify and prioritize indication and resulted in a new compelling pitch decks and marketing materials that have effectively kept conversations active while our asset data packages are close to being finalized.

Thus far, our efforts have led to approximately 30 confidential technical or advanced meetings with interested parties. Additionally, we have approximately 60 companies eagerly awaiting work data. These outcomes highlight our success in driving conversations and generating significant interest in our assets, positioning us favorably in the out-licensing landscape.

Finally, I'd like to touch on our featured non-fee-for-service partnerships where our recent successes have been driven by the integrated sales approach I mentioned earlier. During fiscal year '23, we identified and executed upon 2 appropriate in silico joint intercompany opportunities, starting with the BriaCell and BioStrand. BioStrand has now completed the in silico phase and the program is being evaluated in the wet lab. Secondly, in March, Talem entered into an exclusive research collaboration and license option agreement with Astellas Pharmaceuticals. The goal of the program is to develop antibodies against a novel tumor microenvironment target or TME target because of the unique and challenging nature of the TME, there is an unmet need in the development of a universal solution targeting TME specific antigens. And this collaboration with Astellas Talem will leverage its experience, knowledge and unique insights acquired in its internal programs in combination with BioStrand's artificial intelligence focused LENSai technology.

Following the completion of the in silico and de novo antibody discovery and analysis, Astellas has an exclusive option to license the antibodies against the TME target for the development of therapeutics, including Astellas' chimeric antigen receptor based CAR therapies. We are excited about the ongoing progress of this groundbreaking program. It is important to emphasize the technologies used are not specific to Astellas program and will be available to future partners, including applications targeting the TME.

And with that, I will hand it over to our CSO.

Ilse Roodink

Chief Scientific Officer

Thank you, Barry, and good morning all. I would like to take a moment to discuss current strategic initiatives aimed at streamlining our operations and maximizing shareholder value. Over the past fiscal year, we have conducted an extensive review of balance portfolio, resulting in re-prioritization and consolidation of our programs. Through this process, we have identified 3 key programs that exhibit unique mode of action, a significant value potential and have garnered substantial interest from prospective partners in the biotech and pharma industry.

Our focus is now directed towards generating robust [indiscernible] concept data packages to facilitate early-stage partnering and out-licensing in a cost-effective and time-efficient manner. These measures are driven by market changes that have impacted the capitalization of smaller pipeline companies, leading us to target larger companies in our partnering efforts. By aligning our resources and concentrating on Select programs, we aim to optimize operational efficiency, reduce costs and accelerate the development time line.

We remain steadfast in our commitment to create value for our shareholders and navigating the evolving landscape of the biotech and pharma sectors. We believe that the strategic actions will position Talem for success and foster sustainable growth in the years to come. Our research and development efforts are taking on a revolutionary trajectory with the integration of Wet Lab techniques and high capacity in silico methodologies provided by LENSai especially when it comes to enhancing our single B cell screening capabilities.

Given the rapidly expanding buy and multispecific market and searching demand for suitable targeting modalities we are currently adopting our Wet Lab R&D by implementing products for single day cell-based antibody discovery for camelids. Camelids have a distinct characteristic in the antibody repertoire. The presence of heavy-chain-only antibodies. The antigen binding fragment of these antibodies refer to as VHH are composed of a single domain. This simplicity not only make them highly compatible with [indiscernible] a multispecific modality, but also ideal candidates for [indiscernible] is using our AI-driven structural production tools.

As part of our AI integrated strategy, we are able to deploy machine learning algorithms to assess and predict the suitability of candidates for buy and multispecific formulations more specifically to determine which targeting arm would be most suitable for the desired buy or promote specific format. Furthermore, we are able to embed epitope prediction into the selection process that are facilitating a refined and targeted approach for lead selection.

We have repositioned ourselves in the phage-based antibody discovery market by broadening our ready-to-use immune repertoires from healthy and immune disease donors. And expanding the sequence output obtained from our phage display platform. Our latest workflow smoothly combines the deep mining of target enriched antibody repertoires, leveraging next-generation sequencing capabilities with computational cluster-based analysis. This workflow diversifies the output minimizing platform induced buyers and yielding a superior array of potential therapeutic antibody candidates.

In the short term, we anticipate an increase in revenue directly resulting from this technological advancements. However, our long-term vision and [compulsive] development of in silico optimized libraries as well as fit-for-purpose repertoires like ion-channel focused libraries using our AI technology to guide [indiscernible]. These libraries are expected to outperform the currently available optimized repertoires, which have undergone traditional improvement methods.

To conclude, we are a transformative journey. We are emerging traditional [indiscernible] methodologies with the remarkable potential of in silico technologies. Our strategy underscores our commitment to innovation and positions us to lead in a rapidly evolving biotherapeutic field.

I would like to turn the call over to Jennifer now for the operational update.

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Thank you, Ilse. IPA has dedicated years to building a strong foundation for leading innovation. Our commitment to bringing together cutting-edge technologies and delivering high-quality products to our clients has been a driving force. Historically, we placed a strong emphasis on quality Metadata collection and analysis focused on throughput and output knowing that data would always serve as the core denominator in the business.

Throughout our journey, we have conducted extensive due diligence in the field of AI and machine learning, seeking truly pioneering solutions. These efforts have brought us to this pivotal moment in time, where we are streamlining and solidifying our identity as a leader in AI and technology innovation.

The cornerstone of BioStrand's business plan revolved around our patented HYFT technology that powers our LENSai software. For the utilization of HYFT, we gained the tools to explore intricate biological mechanisms to target complex receptors, including GPCRs, ion channels and the intricate tumor microenvironment. These advanced technologies provide us with the means to delve deeper into these challenging areas and unlock potential solutions. While success is not guaranteed, our ability to address these intricate targets opens up new possibilities and avenues for therapeutic development in previously unexplored areas of biology.

By harnessing the power of HYFT, we are equipped with the tools to tackle these complex challenges and make significant strides in our understanding and treatment of diseases. In this endeavor, LENSai plays a pivotal role. With its capacity to analyze massive data sets, identify intricate patterns and simulate complex biological systems. Our AI provides invaluable support. By harnessing the power of AI and leveraging HYFT patterns, we are uncovering novel strategies and pathways to design effective

therapeutics. This approach not only pushes the boundaries of scientific understanding, but it also opens up new frontiers in our ongoing fight against diseases.

BioStrand's revenue generation strategy has been methodically planned to capitalize on the multifaceted potential of our innovation. Our initial revenue stream originates from our in silico technologies, complemented by our well-respected wet lab services. These offerings provided as a fee-for-service model, are geared toward harnessing the power of advanced machine learning techniques and AI algorithms and span a wide array of applications, including but not limited to, natural language processing or NLP, driven target identification and target analysis. Immunogenicity testing, finding and docking analysis and relative affinity calculations. To provide insight into the revenue potential of these services, let's explore the specifics of immunogenicity testing. This assessment plays a crucial role in ensuring the safety and effectiveness of therapeutic proteins. Making it an indispensable component of the biotherapeutic development process.

Our pricing structure for immunogenicity testing is determined by the number of clones being evaluated. For a single clone, the cost start at \$10,000. As the program size increases, we offer sample price reductions to accommodate larger volumes. For instance, testing 1,000 clones cost \$200,000, resulting in a reduced price per clone of 200 -- to \$200. With a volume of 10,000 clones, the total cost is \$550,000, reducing the price per clone to \$55. These pricing tiers allow for scalability and accommodate different sample sizes making our immunogenicity testing services accessible to a wide range of clients.

We have reason to anticipate significant revenue growth from the immunogenicity service alone. In the approximately 6 weeks since publicizing these offerings and showcasing the unique insights they provide, we have garnered strong demand, resulting in approximately 8 different program requests.

We anticipate yet another revenue stream through our partnerships in in silico de novo antibody discovery and development. These partnerships are designed to create a steady and growth-oriented income stream, benefiting both parties from shared successes. Our partners have the opportunity to utilize our multimodal platform to advance their therapeutic discovery efforts, supported by upfront fees. Furthermore, our agreements include milestone payments that began as early as preclinical evaluations and continue through clinical development phases. These milestones, as mentioned, ranging from approximately USD 60 million to USD 400 million, not only track the progress of therapeutics, but also service incentives for successful development. By implementing this structure, we are able to celebrate and partake in our partners' clinical achievements.

Completing our deal structure as a royalty model that takes effect upon commercialization of a drug through negotiations, we have established per country royalty payments an aim of generating consistent and long-term revenue sources post-commercialization. This model guarantees our continued involvement, invested interest in the successful development and commercialization of therapeutics discovered using our platform.

Under this comprehensive model we have successfully completed the in silico phase of our work with BriaCell Therapeutics. We are now nearing the completion of Phase 1 of the Astellas program. These advancements go beyond financial gains as they demonstrate the potential and practicality of our platform playing a pivotal role in our long-term strategic vision.

Given the projected exponential growth of data in the pharma industry, with an estimated 40 exabytes of data to be generated in the coming years. To put it into perspective 1 exabyte equals 1 billion gigabytes. The effective data management is a top priority. Managing such an enormous volume of data poses immense challenges but also presents a golden opportunity for businesses skilled in data handling and analysis.

Our offerings are precisely geared toward addressing this data deluge. We have strategically positioned BioStrand to capture a slice of this burgeoning big data market within the pharma sector. With a conservative estimate of acquiring 0.024% of the data management market over the next 5 years. This translates to annual recurring revenue of \$25 million over 5 years.

We understand that as clients generate and utilize more data, their data management needs will grow. Hence, we plan to meet those needs with secured packages that are designed to be scalable and flexible to accommodate this evolution. This planned approach is well researched and based on market analyses and we believe is well suited to help position BioStrand as a key player in the pharma industry's big data management market.

Expanding on our strategic business model, we will further enhance our data management offering by completing it with an analytical layer. By seamlessly fusing data management with LENSai analytical capabilities, we will provide clients with an unparalleled end-to-end data solution. LENSai suite of advanced analytical tools is designed to unlock valuable insights from complex biological data. It offers an integrated framework that is capable of analyzing sequence, structure and function in 1 unified setup. Using advanced algorithms, LENSai can rapidly analyze large volumes of intricate [indiscernible] data, identifying patterns and insights that would otherwise be impossible to detect. This unmatched analytical scalability provides actionable insights and reveals meaningful biological relevance. Giving our clients a comprehensive understanding of their data and affection of the time typically required.

When a pharma client uses our data management platform, the addition of LENSai's capabilities can dramatically enhance their data interpretation and decision-making processes. This comprehensive solution not only manages and organizes their extensive data but also leverages LENSai's prowess to analyze and interpret this data, driving meaningful discovery and innovation. From sequence alignment and comparative genome studies to biomarker identification and biotherapeutic discovery. Our integrated platform streamlines these complex processes, providing our clients with a holistic view of their research.

Additionally, the data generated from LENSai's analyses further contributes to the data management system, creating a continuous cycle of data generation, management, analysis and interpretation. This upselling strategy aims to add substantial value for existing data management clients, driving additional revenue while providing a comprehensive, efficient solution to the complex challenges of biological data analysis. We believe this integration of LENSai's tools with our data management platform will not only distinguish our service offerings, but also eventually solidify our position as a leading provider of innovative solutions in the pharma industry's big data management market.

Essentially, the future of transformation -- the future transformation of our data organization and management platform into a SaaS model will provide our clients with a comprehensive streamlined solution for their data challenges. This evolution will empower them to seamlessly integrate and scrutinize diverse statuses, encompassing unstructured text, structured data, sequence information and structural data.

As we forge ahead in refining and expanding our software capabilities, we are not only aiming to keep pace with the industry's evolving needs but also to establish ourselves as the partner of choice for biotech and pharmaceutical companies. Our goal is to aid these organizations and streamlining their data, their data management workflows and amplifying the impact of their research and development efforts. Indeed, we believe that the integration of advanced data management with our LENSai tool set is a game changer, setting a new standard in the industry. We look forward to a future when we can continue to break barriers and foster innovation, driving the next wave of advancements in life sciences.

As you can see, the BioStrand revenue streams encompass a range of services from in silico technologies and de novo antibody discovery to our future SaaS model for data organization and management. By continuously refining our software capabilities and expanding our offerings, we are well positioned to achieve sustainable growth and have a meaningful impact in the biotech and pharmaceutical sectors. Furthermore, it is worth noting that some of our competitors in the industry have reported burn rates exceeding \$100 million annually. This highlights the substantial investments being made in the field of AI-driven drug discovery and development. We believe that our efficient operations, our core technology and strategic focus position us well in this competitive landscape, allowing us to maximize shareholder value while maintaining prudent financial management with an overall company burn of close to only 10% of those competitors.

Now let's delve into the additional highlights of our accomplishments this year. The integration of next-generation sequencing, or NGS, pipeline analytics, and workflows at our discovery sites has been an

ongoing endeavor. Over the years, we have developed multi-species NGS capabilities to enable us to capture vast amounts of antibody sequence data, which can be used to continuously enrich HYFT patterns. This integration enables us to leverage the power of AI and data analytics to improve and accelerate discovery processes for our clients and partners.

Software development has been a major focus for us this year. The build-out of our LENSai software has been a massive undertaking as it forms the backbone of our operations tying together wet lab services, software capabilities and our HYFT technology. This integration required a massive effort to translate knowledge and expertise from IPA to BioStrand. Culminating in a software platform that goes beyond a minimum viable product and enables us to solve actual biological problems.

In April, we reached a monumental validation and milestone with the issuance of an EU patent by the European Patent Office for BioKey's application covering our HYFT technology. This patent solidifies the novel and efficient way to integrate multimodal data into a single framework, addressing many high-priority challenges in the life sciences including the current challenges in OMIC data integration and analysis. The HYFT technology serves as the core of BioStrand's LENSai integrated technology platform, which provides cutting-edge data solutions and supports antibody discovery. So far, our HYFT patent has been accepted in over 10 different countries.

Incorporating the white box approach, we fundamentally shifted the paradigm of AI and genomics, putting an emphasis on scientific reasoning and process transparency. This unique approach provides scientists with a clear understanding of AI's decision-making process. Unlike traditional black [indiscernible], deep learning models that offer little to no insight into their internal workings. Our advanced platform LENSai fosters traceability and interpretability in each step of data analysis. This ensures that users are not just presented with results, but they can actually follow the logical path that the AI took to arrive at those conclusions.

Importantly, by doing this, we're empowering scientists with a tool that not only perform high-throughput data analysis, but also provides a detailed rationale for its findings. For bioinformaticians, biologists and other researchers, this visibility is invaluable. It engenders trust in the AI's output, fosters a deeper understanding of the patterns and correlations that the AI is identifying and provides users with a powerful tool to verify their hypothesis. In essence, it bridges the gap between AI statistical power and the researchers expertise, facilitating a truly collaborative approach to research.

In short, integration of the white box concept elevates AI's role in genomics from being a simple data analysis tool to becoming a partner in the scientific discovery. This aligns perfectly with our goal to deliver AI-driven insights while ensuring that the user stays in control. Thus creating a harmonious blend of AI capabilities and human expertise in the pursuit of biomedical breakthroughs. By seamlessly integrating different modalities and dimensions of biological data including unstructured types, structured data, sequence information and structural data, we unlock valuable insights. Our HYFT-based model and integrated intelligence platform enables scalable data analysis, distinguishing between known and new information and making predictions across different modalities.

As we face an imminent data wall in the life sciences, with data generation expected to exceed 40 exabytes in the coming years, the capacity for scalability and efficient processing and our technological systems becomes more than just an advantage. It is an absolute necessity. Traditional screening or parsing algorithms are becoming increasingly inadequate to handle this data influx, which poses a major challenge to the field. This is where our framework underpinned by HYFT and empowered by our integrated intelligence platform, LENSai steps in.

Our model is uniquely equipped to process and analyze very large volumes of data efficiently. This robust capacity to manage and interpret such expansive data sets is built into the very fabric of our technology. Enabling it to remain effective and efficient in the face of rapid data growth. Our scalable approach is not only about handling sheer volume, but also about extracting meaningful insights amidst all of the noise. In an era where data is expanding exponentially, the ability to identify the needle in the haystack becomes more crucial than ever. Our framework ensures that the surge in data does not drown out potentially groundbreaking discoveries but instead enables their identification and exploration.

In short, our focus on scalability and efficiency backed by our HYFT-based model and LENSai platform positions us at the forefront of this data revolution. It allows us to drive health care innovation and reveal new connections and relationships in the biomedical field all while navigating the upcoming data wall with agility and precision.

Our revenue streams, NGS analytics, software development, HYFT patent, thought collaborations and competitive analysis are all key indicators of our emergence to de novo antibody discovery technologies as we continue to leverage cutting-edge innovation, optimize our operations and expand our capabilities, we are well positioned to drive advancements in health care and deliver value to you, our stakeholders.

With that I'll hand it now to Mr. Brad McConn, our Chief Financial Officer.

Brad McConn

Chief Financial Officer

Thank you, Jennifer, and good morning, everyone. I'll provide an overview of our financial results for the year. Before touching on our financial position as of the end of the period. As a reminder, all numbers I referenced are in Canadian dollars, unless otherwise noted. IPA recorded total revenue of CAD 20.7 million during the fiscal year 2023, a 6.7% increase compared to fiscal 2022. This includes record quarterly revenues of CAD 5.6 million during the fourth quarter of fiscal 2023. When adjusting for the effects of currency translation, revenue growth rises to 9% year-over-year.

Both our protein production and B-cell select platforms realized impressive results during the year with our Utrecht and Victoria sites growing 19.3% and 18.9% year-over-year, respectively. Gross profit for the year totaled CAD 11.6 million, an increase of CAD 0.6 million compared to the prior year while gross profit margin was 56% compared to 56.7% in fiscal 2022.

Operating expenses totaled CAD 40.1 million for the year ended April 30, 2023, as compared to CAD 27.7 million during fiscal 2022. Research and development expenses totaled CAD 12.3 million during 2023, an increase of CAD 4.6 million compared to 2022, this increase is primarily related to spend on PolyTope antibody combination therapy during the first and second quarters of this fiscal year. During the fourth quarter of 2023, research and development expenses totaled CAD 0.5 million as compared to CAD 6.2 million and CAD 4.6 million during the first and second quarters of the year, respectively. Sales and marketing expenses totaled CAD 3.6 million in fiscal 2023, an increase of CAD 0.9 million from the prior year. Compensation expense, including share-based payments, increased CAD 0.4 million, while advertising and travel costs each increased CAD 0.2 million compared to the prior year.

General and administrative expenses totaled CAD 19.8 million during the year ended April 30, 2023, an increase of CAD 4.4 million compared to the prior year. Salaries and benefits increased CAD 2.1 million, primarily due to the addition of staff at BioStrand. Professional fees decreased CAD 0.2 million, driven by a reduction in legal costs. Management fees increased CAD 1.3 million due to contracted general managers at the BioStrand site, while share-based payments decreased CAD 1 million. The company also recorded an impairment charge of CAD 2.5 million on the goodwill associated with the BioStrand cash-generating unit. More details of which will be found in our 40-F. This charge is a noncash transaction and arises primarily due to an increase in the cost of capital associated with the asset as compared to a year ago.

Finally, amortization of intangibles increased CAD 2.4 million through the intangibles recorded for the acquisition of BioStrand. IPA recorded other income of CAD 0.8 million during fiscal 2023 compared to CAD 0.9 million during fiscal 2022. The biggest changes in other income included an increase in grant subsidy income of CAD 0.3 million as IPA recorded the first round of grant funding from VLAIO, the research fund of the Flemish regional government in Belgium. Along with a decrease of CAD 0.4 million in unrealized exchange gains. All told, IPA recorded a net loss of CAD 26.6 million during the year ended April 30, 2023, compared to a loss of CAD 16.7 million during the prior year.

Moving to the balance sheet. IPA held cash of CAD 8.4 million as of April 30, 2023, compared to CAD 30 million as of April 30, 2022. During the year, our quarterly cash expenditures totaled CAD 10.6 million during Q1, CAD 5 million during Q2, CAD 3.7 million during Q3 and finally, CAD 3 million during the fourth quarter. During the year, cash used in operating activities totaled CAD 19.8 million, while cash used in

investing activities included CAD 1.5 million in equipment purchases and CAD 0.6 million for deferred acquisition payment for BioStrand. Cash used in financing activities included CAD 1.3 million in lease payments. Partially offset by CAD 0.7 million in proceeds from share issuance to option exercises. With that, I'll turn it back to Regina for Q&A.

Question and Answer

Operator

Thanks, Brad. Before Jennifer adds any closing remarks, we would like to open the floor to any questions from analysts and investors. [Operator Instructions] Our first question will come from the line of Will McHale with Ingalls & Snyder.

William Campbell McHale

Ingalls & Snyder LLC, Research Division

Jennifer and team. Just a couple of quick ones from me. I was hoping you might be able to speak about how the recent partner deals that is BriaCell and Astellas differ from prior Talem collaborations?

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Thank you, Will, for the questions. So I'll start this one off. Barry is also closely associated with these programs. So you can certainly feel free to add anything here as he sees fit.

So historically, our collaborations in Talem Therapeutics, have been collaborative efforts where the 2 groups are working together primarily around 2 technologies we're bringing together. So when we look at, for instance, the collaborations we've announced with regard to Genmab or Twist. These are situations where each group is bringing a specific tool, a specific capability together to build an identified particular antibody of interest against the target that's been agreed upon. In those cases, both groups are typically pulling their resources together for shared ownership of the final product that then can be out-licensed by the parties for mutual benefits.

In addition to that, we have other types of collaboration there where we have the early stages of the work being done by IPA with a set designated amount of work that's done in the wet lab and then from there on, and so an example of this, for instance, would be Pierre Fabre, where they then would have the opportunity to out-license that product and then move that forward with milestone and royalty payments.

So the major difference here, first of all, is that the initial work after the target of interest, which has been selected by the partner is done in the in silico setting at BioStrand. A key differentiator here first and foremost, is that all of that work is not being done. In Talem's silico, it's being done on a much more rapid time line because the in silico time lines are highly accelerated compared to a wet lab. So from the time that we start to the time that we end up with potential in silico products is typically around 8 weeks' time, with regard to BioStrand, in a laboratory setting that would take us many, many months. From that point on, the partners in these collaborations with BioStrand they have the opportunity to out-license the assets of interest that have come from BioStrand. And in those particular cases, if they're interested in taking those assets forward and they need to pay an upfront payment to IPA.

So there are several distinguishing factors here between these programs and the ones in Talem. First of all, with regard to the assets in one of these programs, there is what we call an automatic trigger payment. It's not really an option to take or to not take these particular assets if we are able to show them that it does, in fact, bind and have a particular characteristic. And so that is quite different than in a collaboration where it's an optional out-licensing event. In addition to that, the milestones occur much earlier on in the BioStrand deals. Where we start seeing milestone payments for earlier on stages like preclinical work and IND applications.

Further differentiator is that in most of these models within BioStrand if there's not an automatic trigger payment, but the partner decides not to take the asset towards some of the assets, the actual ownership of those assets reverts back to BioStrand, which is not at all common in these sorts of deal structures. And so we consider that to be an incredible benefit because it's inadvertently also building a pipeline of valuable products, which are now owned by BioStrand. So that's a few of the major differences between these. And if we look at it from a financial perspective, there's a couple of things that are significantly different.

While they have these upfront payment milestones and royalties, one thing that's significantly different. Is that they're tied to that revenue recognition and initial payment is a lot faster in BioStrand but in addition to that, the profit margins are extremely different because it's not the full wet lab component of what we would do in a traditional Talem setting where that wet lab work would require fairly substantial expenditures for IPA to contribute to that component of a partnership. In this particular case, in silico work. It's not only much faster, but it's much less expensive for us to conduct with the majority of the cost just being the full-time equivalent of the employees working on the program.

William Campbell McHale

Ingalls & Snyder LLC, Research Division

Got it. That's all really helpful. Just one more quickly for me. Could you comment on the sort of pipeline for these types of partnership deals, do you anticipate adding additional partners over fiscal '24?

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Yes, that's, I'm sure, a question a lot of people are wondering. So we do anticipate that, as we mentioned, we're already finished with the in silico portion of BriaCell. Astellas is already moving along quite quickly. We actually do already have several groups that have engaged us for quotes. And as I mentioned, about \$790,000 worth of quotes queued in BioStrand. So there's a few interesting things with regard to that. With regard to 3 of those quotes, which make up about \$640,000, it's about 80% of that total value in quotes. These are actually related to de novo in silico programs where it is still like kind of a beta pricing in this particular case. But it's being run under fee-for-service work because this is a situation where the client actually prefer the fee-for-service model in nature to retain IPA custody with some very important data that they were bringing into the study.

So we do have those particular quotes out in an active conversation. Beyond that, we have several different large pharmaceutical companies that we are working with that all seem to be trending in a very similar direction. It does seem like when we're meeting with the larger groups at these different pharmaceutical firms that they are all interested in each of the aspects of BioStrand 3 revenue streams. And so we do -- we first actually, we believe there's a decent probability we'll be onboarding a private study for the data management program [indiscernible]. But in addition to that conversation around -- can you still hear me?

William Campbell McHale

Ingalls & Snyder LLC, Research Division

Yes.

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Okay. I apologize. I had a problem with my headset. But there is active conversation around further collaborations of this nature. And in those particular cases, we have committed to not doing the early adopter pricing or beta pricing. The reason why we enabled these quotes -- 3 quotes to this 1 large pharmaceutical company to go out under beta pricing is they are 1 of those first 4 companies that we approached where we knew they had a particular target that they've been working for 15 years on has never been successful. So they were 1 of the ones that was qualified under that original arrangement many months back.

So we do see demand and we are moving quite quickly through the ones that we do have. So yes, indeed, we do plan to bring more of these in, but the pricing structure will be changing and we won't be offering those beta pricing or early adopter pricing fees.

Operator

Your next question comes from the line of Ramakanth Swayampakula with H.C. Wainwright.

Swayampakula Ramakanth

H.C. Wainwright & Co, LLC, Research Division

Thanks Jennifer and Brad, so I have just one question. I'm trying to understand how you're thinking about structuring future deals or future collaborations especially when you have different offerings from BioStrand from simple in silico work. And then if you're layering this data management on top of it, would -- whenever there is a data management transaction. Is that always in conjunction with in silico sort of work? Or will you also have a separate data management kind of a collaboration?

Jennifer Lynne Bath

CEO, President & Non-Independent Director

No, that's actually -- that's a great question, RK. Thank you for that. So the data management tool can actually stand-alone on its own. And I anticipate that the majority of that type of work would actually do so. What we're finding right now in those conversations is that much like IPA has been doing over the more recent 3 to 4 years here with regard to just collecting and storing data. We're finding that these large pharma companies have been doing that for 15, 20, 25 years. And so they're just sitting on massive amounts of data that are just some cost and to store that data, oftentimes, they're incurring costs, if they're doing that in a cloud-based format. And many have it just in silos, very disparate, on hard drives, even floppy disks, some on the cloud, et cetera. And so that primary driver of what we're seeing in that space with regard to data management, it's actually -- it's universally with every group that we've spoken to it is how do we take all of that information, get it organized in a way that it all can be utilized and analyzed together.

How do we have it in 1 place to store it so we can remove those silos? And then on the other side of that, is they're actually a way for us to analyze this, right? If we're going to have data off of 10 years of data off of equipment, we're going to be utilizing external data sources that we brought in. Sometimes, it's even people's notes and publications they've been collecting. And so that's kind of that added layer that I mentioned in terms of the analytical component where not only can we help them by taking this and organizing it in a way where it can all be organized together and store that with very good security for them, but also now instead of it just being expensive at some cost, we can actually turn that into an asset for them.

We can turn that into something where they can now actually analyze it no matter what kind of data that it is. And that's the unique differentiator, right? So what we're dealing with is data from any different sort of domain, any different modality, it really doesn't matter what sort of data it is. We can now use that to enable them to get insights from it, to learn from it, to support their research programs. And that's part of what gives us the confidence that we're providing a real differentiator with regard to just the organization and the actual management.

So I would say, by and large, that's what we foresee is kind of those independent programs where we help people just take all of this lost cost, some cost and data that they can't use and format it in a way that enables them to utilize our LENSai to turn it into revenue generating insights for them. On the other hand of that, like I mentioned, we are seeing that people are coming in for that type of work are also asking about the other things we're capable of doing. And so they are still asking about using LENSai for analytical insights. They are still asking about de novo in silico work and collaborations but those all can happen in separate programs that wouldn't necessarily be related.

Operator

Your next question will come from the line of Michael Freeman with Raymond James.

Michael W. Freeman

Raymond James & Associates, Inc., Research Division

Jennifer, congratulations on a big year, patent awards and productizing BioStrand -- these are no small feat. So congratulations on all that big. You've described so many capabilities of your various platforms. And I wonder, maybe as a simplifying exercise, could you describe maybe like what an ideal customer for IPA today looks like? And how -- like how might that customer start and how might that customer be

converted into some of sort of your -- sort of highest value-add product offerings through IPA. That would be really helpful.

Jennifer Lynne Bath

CEO, President & Non-Independent Director

That's an interesting question, Michael, because I look at each of those revenue pillars at kind of distinct opportunities that all have really unique benefits and all, I think, in their own way, contribute in a highly profitable way for BioStrand and IPA. So it's a little difficult to choose 1 as an ideal client. But what we're seeing, I think, quite rapid adoption in is maybe a good example because I think that rapid adoption into that wet-lab in silico combination is probably a little bit lower-hanging fruit and faster adoption for our clients because of the fact that they're already using the wet lab capabilities. So if they come in they're meeting with our sales team. They're having this conversation with the scientific team at IPA.

As we're exploring how to address and solve the problem they've brought forward, it's a very natural conversation for us to bring in all of the in silico capabilities that we have now added that can be integrated directly into a wet lab program very seamlessly. And but give them more insight, give them more diverse antibody candidates, give them more information about the safety and the potential efficacy of the actual antibodies that they're analyzing and even give them information about the possible negative effects of those drugs once they get into patients. And so by adding all of these things into the wet-lab, not only are we really increasing the size of those programs for those clients, but we're introducing them into the in silico capabilities. We're showing them the power of what we're able to do.

So not only is it kind of easier access to those kinds where we've got them on the phone with the right people on our side, the right people on their side, but we're going to give them a taste of what we're capable of doing. And so I think that's probably quite a natural entry point for a number of our clients because that communication is already happening, right? We've already got the key decision-maker in that company. And then from there -- in this client right now that has the \$640,000 in quotes right now for BioStrand is a perfect example. That's exactly how this happened. And from that conversation with the same key decision makers. We were then invited to meet with them around the de novo in silico programs, of which now they are looking to launch 3. And now also, they have put us in contact with the person that was recently hired to manage 15 years of disparately collected data that is sitting in silos at their company. So that's kind of a perfect example of how this would cross-sell and upsell quite naturally through the initial conversation.

Michael W. Freeman

Raymond James & Associates, Inc., Research Division

Brilliant. Okay. That's super helpful. And last question for me. I wonder if you could comment on your cash needs during the next 12 to 18 months.

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Absolutely, we can. So I mentioned to you all earlier, we've made some concerted efforts to reduce our spend to really make sure that we're focused on revenue-generating activities within the company. Right now, we're projecting that forward-looking burn for the next 12 months to be sitting at somewhere around \$12 million. We will have a need to raise money here in order to continue to support our strategic endeavors, in particular, the software development at BioStrand and probably for some general needs as well. I think the thing that we find really encouraging is that our overall annual burn is just so much less significant than our competitors. And we mentioned in part why that's the case.

But in large part, it's because of the technology we use that technology that supports our algorithms enables us to not have to focus on more and more coding and more complex algorithms because it takes and the amount of information and immediately deduces to these patterns that give you only the information that you need to retreat the insights. And so we have fewer needs with regard to the number of personnel. And we believe we're able to run that in a much more streamlined manner with much reduced cost.

So as I mentioned, we're -- overall burn annually is reduced to right now -- it looks like it's about 10% of the majority of our AI antibody competitors. And so the amount that we would need to raise would be pretty minimal. We're looking at smaller raises maybe around the area of \$5 million at some point with the caveat that it's really important to us to know who would be coming in, what their perspective on their long-term investment is and what sort of contribution that they're able to make with regard to just the reputation, understanding of our company, intention for really being interested in IPA. But we are very focused on making sure that these costs -- those amounts are minimized, shareholder dilution is minimized, that we're getting the best cost and deal possible. And then yes, bringing in reputable long-term investors.

Michael W. Freeman

Raymond James & Associates, Inc., Research Division

Fantastic. Also helpful. I look on the upcoming quarter and year. I look forward to next call.

Operator

We thank you for submitting your thoughtful questions today. I'll now move us on to closing remarks. Jennifer?

Jennifer Lynne Bath

CEO, President & Non-Independent Director

Thank you very much, Regina. In closing, we would like to express our sincere appreciation for your participation in our fiscal year earnings call. We are energized and dedicated to disseminating all of the exciting operational updates to our investors over the next several months. We are committed to bringing new validating case studies and demonstrating how our optimized biotherapeutics discovery tools, combined with truly differentiating AI technology, and revolutionize the cycle of drug discovery.

We are enthusiastic about the opportunities ahead as we continue to shape the future of Biotherapeutics. Your continued support and engagement are invaluable as we strive to make a positive impact in addressing unmet medical needs and improving patient outcomes. We eagerly anticipate sharing our progress and accomplishments in the coming months showcasing the power of our integrated approach. Together, we can pave the way for a future where optimized biotherapeutics discovery tools and our pioneering LENSai technology drive unprecedented innovation in the field of drug discovery.

Once again, we thank you for your presence, and we look forward to the journey ahead as we embark on this exciting path of revolutionizing the landscape of biotherapeutics.

Operator

That will conclude today's meeting. Thank you all for joining. You may now disconnect.

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