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John D. Vandermosten, CFA
312-265-9588 / jvandermosten@zacks.com

scr.zacks.com
10 S. Riverside Plaza, Suite 1600, Chicago, IL 60606

Dyadic International, Inc. (DYAI - NASDAQ)

Partnerships Accelerate

Based on our DCF model and a 15% discount rate, Dyadic International is valued at approximately $7.00 per share. We assume a 20% probability of ultimate success for C1, based on historical drug approval rates and quantity of projects in the pipeline. The model assumes revenue contributions from sources worldwide.

Current Price (5/9/2019)	$3.90
Valuation	**$7.00**

OUTLOOK

Dyadic has developed a gene expression system based on C1, its proprietary fungal expression system that can produce a variety of recombinant proteins. C1 is already commercial in industrial applications and is in development for use in the development and production of pharmaceutical grade proteins. C1 exhibits potential to economically produce biologic vaccines, virus like particles, antibodies, Fc-fusion, enzymes, AAVs and other biopharmaceuticals.

In 2015, the company sold its industrial business to DuPont for $75 million and retained the exclusive right to sublicense C1 for use in animal and human pharmaceutical applications. Proceeds from the DuPont sale provided cash for share repurchase and further development of the C1 platform for production of biologics. Additional R&D funding comes from partners. Dyadic is currently working with several biopharmaceutical companies and government organizations to validate the technology.

In the near term, we expect growing R&D revenue as additional partners are added. By 2020, we anticipate first sales-related revenues from C1, which represent licensing fees, upfront payments, milestones and royalties.

SUMMARY DATA

52-Week High	**4.87**
52-Week Low	**1.40**
One-Year Return (%)	**158**
Beta	**0.12**
Average Daily Volume (sh)	**67,035**
Shares Outstanding (mil)	**26.8**
Market Capitalization ($mil)	**104.4**
Short Interest Ratio (days)	**0.1**
Institutional Ownership (%)	**6.6**
Insider Ownership (%)	**45.5**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**N/A**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2018 Estimate	**N/A**
P/E using 2019 Estimate	**N/A**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Small-Growth**
Industry	**Med-Biomed/Gene**

ZACKS ESTIMATES

Revenue

(In millions of USD)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2018	$0.2 A	$0.2 A	$0.3 A	$0.7 A	$1.3 A
2019	$0.4 A	$0.4 E	$0.5 E	$0.5 E	$1.8 E
2020					$2.2 E
2021					$3.0 E

Earnings per Share

	Q1	Q2	Q3	Q4	Year
2018	-$0.07 A	-$0.06 A	-$0.06 A	-$0.02 A	-$0.21 A
2019	-$0.08 A	-$0.07 E	-$0.07 E	-$0.07 E	-$0.29 E
2020					-$0.32 E
2020					-$0.34 E

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WHAT'S NEW

First Quarter 2019 Financial & Operational Results

Dyadic International Inc. (NASDAQ: DYAI) released first quarter 2019 financial and operational results on May 9, 2019. Revenues were $0.4 million and represented research and development proceeds from partners working to develop C1. Total expenses were $2.8 million and net loss was ($2.2) million after adding interest income and making a small adjustment for taxes. Loss per share was ($0.08). Total cash and investments were $40.0 million at year end, equivalent to ~$1.50 per share.

The year started off on with a whirlwind of collaboration announcements. Two were announced during the first quarter with top 25 pharmaceutical companies and three additional agreements were announced in the last ten days. These included the Australian Luina Bio, Florida-based Alphazyme and the Serum Institute of India. Several other positive events occurred since the beginning of the year including the company's Form 10 being deemed effective by the SEC, uplisting to the NASDAQ, publication of a patent for flu vaccine production and a research project focused on developing adeno-associated viral vectors.

On the financial side…..revenues for the first quarter increased 118% to $0.4 million and exceeded our forecast of $0.3 million reflecting higher partnership contributions. Total expenses increased 18% to $2.8 million. Total research and development was up 26% equaling $1.4 million. Greater activity with contract research organizations (CROs) and higher activity overall contributed to the increase. General and administrative expenses rose 10% to $1.4 million due to stock compensation, SEC registration and uplisting costs, business development and investor relation costs and legal expenses. These amounts were offset by lower compensation costs and other decreases. Net loss was ($5.7) million for the period, compared to ($2.1) million in 2017. On a per share basis, net loss was ($0.08) compared to ($0.07) in the prior year.

The company has guided for cash burn of ($8) to ($10) million in 2019, which could be offset by contributions from additional deals or increased in magnitude by a new wholly-owned program launch similar to what was accomplished with AAV, nivolumab or certolizumab.

Research Collaborations

During 2018, Dyadic entered into nine proof of concept research collaborations that were fully funded by participating partners. The pace was maintained in 2019, when two additional collaborations were added in the first quarter with top 25 pharmaceutical companies and during the second quarter when three additional relationships were forged with companies around the globe.

The agreement with Luina Bio was announced on April 30 and created a worldwide sub-licensing agreement for the use of C1 to develop and commercialize antigens and biological products for use with companion animals. As part of the agreement, Dyadic received a 20% equity interest in Novovet, an entity which will develop and commercialize the associated products. Dyadic will also receive a percentage of royalties on net sales and non-sales revenues associated with C1. With its 20% interest in Novovet, Dyadic will have the right to appoint one individual to the board of directors. Dyadic has highlighted the benefits of this agreement noting the cGMP facilities that Luina maintains and the faster path to commercialization for animal health products as compared to human medicines.

The agreement with Alphazyme is a sub-licensing arrangement. Alphazyme and Dyadic had previously worked together in 2018 on a proof of concept project which yielded favorable results leading to the May 6th announcement. This arrangement will allow Alphazyme to use C1 to produce molecular biology enzymes addressing markets for custom DNA and RNA molecules, genomic medicine and genetic testing. It will provide Dyadic with a 7.5% ownership interest in Alphazyme, additional milestone payments and a percentage of royalties on next sales upon transfer of C1 technology to the company. Following the technology transfer, an 18 month exclusivity period will begin to give Alphazyme a head start to develop product. Following the end of the 18 months, Alphazyme has an option to extend the exclusivity period for an additional 12 months for an additional 2.5% interest in the company.

The latest agreement was announced on May 8th with Serum Institute of India to develop and manufacture antibody products and vaccines. The Serum Institute has dramatically reduced the cost of its products relative to many of the Western producers to make them affordable to developing economy populations. The use of C1, if successful, will enable Serum to maintain its low cost position in the manufacturing space and also improve the performance of biologic vaccines drugs and other biologic products. The collaboration allows C1 to be used to express up to 12

antibodies and vaccines. Dyadic will grant Serum the option for a 15 year exclusive sub-license for each of the 12 proteins in return for research funding, milestone payments and royalties. We see the Serum collaboration as potentially one of the most important due Serum's reach (65% of children around the globe get at least one Serum vaccine) and focus on low cost (one of the biggest hurdles in medicine today). Dyadic management speculates that this agreement will heighten attention in large vaccine manufacturer board rooms who are concerned about a low cost competitor obtaining an even greater advantage in the market. We agree.

Dyadic continues discussions with prospects and we expect to further collaborations to be announced. We believe that there could be an accelerating rate to additions as momentum builds and biologics producers that are not now participating do not want to be left out. Dyadic has outlined a variety of structures that would work for them to build collaborations including an access fee (upfront cash), research milestones, commercial milestones and royalties, equity stake in the company, partnerships or a combination of these structures.

We are optimistic on research collaborations with large pharmaceutical companies as it allows potential acquirers of this technology evaluate its potential and have a stake in its success. With numerous interested parties invested in developing the technology we anticipate that if a bidding war begins, substantial value will accrue to Dyadic shareholders.

Other Highlights

Since Dyadic's full-year report approximately six weeks ago, the company has continued to make progress with collaborations. The firm has also advanced its work exploring the use of C1 to produce adeno-associated virus (AAV) vectors, which are in short supply. The patent portfolio was augmented with the publication of the application entitled "Production of Flu Vaccine Produced from Myceliophthora Thermophila." Work with Sanofi is progressing well with target expression levels being exceeded in several proteins they are developing with C1. Dyadic has sent a sample of expressed protein to partner Mitsubishi Tanabe to perform a functional analysis and decide whether to move forward with additional research. With both of these relationships, expanded licensing deals, human clinical trials and opportunity for commercialization of products is possible. The company is making excellent progress and advancing on numerous fronts, raising the likelihood of license revenues and income producing deals.

Milestones

Dyadic has performed well over the last year adding fourteen new collaborations over the last year and a half. The company was also able to achieve its objectives with respect to becoming a fully reporting SEC company and satisfying the requirements to be listed on the NASDAQ. We include below recently achieved milestones and others we expect in the near term:

- NASDAQ Listing – April 2019
- NASDAQ Bell Ringing Ceremony – June 17, 2019
- Advances in glycoengineering of C1
- Additional protease deletions
- Advancements in nivolumab development
- Comparison work completed for certolizumab vs. Cimzia
- Additional collaborations
    - Luina Bio – April 2019
    - Alphazyme – May 2019
    - Serum Institute of India – May 2019
- Potential cash inflow from licensing or development arrangement

Summary

Dyadic was able to accelerate its licensing agreements, partnerships and collaborations in 2019, demonstrating the increasing level of interest in the capabilities of the C1 platform in the protein expression industry. The company has spread a wide net, exploring opportunities in AAVs, monoclonal antibodies, vacccines, metabolites and a broad variety of other opportunities in both animal and human health. While the current industry standard largely employs Chinese Hamster Ovary (CHO) and *E. coli* to produce the majority of pharmaceutical proteins, the improved profile of C1 can increase productivity and quality of output relative to these entrenched systems. With the addition of Serum Institute of India, a recognized low cost provider of vaccines and other medicines, we anticipate increased focus on the competitive advantage that can be gained by expressing with the highly productive and consistently improving C1 system.

The details provided on the conference call and in the first quarter press release demonstrate continued advancement on a broad portfolio of projects that will likely yield commercialized products, licence revenues and potentially a buyout. We see a substantial level of value based on a broad portfolio of options and an exciting technology that can revolutionize the protein expression industry. Future favorable catalysts include the addition of more collaborators, achieving output milestones and entering the clinical trial process. We see the addition of new partners and the high likelihood of even more joining Dyadic in the near term as strong evidence of value. We maintain our target price to $7.00 per share.

PROJECTED FINANCIALS

Dyadic International, Inc. - Income Statement

Dyadic International, Inc.	2018 A	Q1 A	Q2 E	Q3 E	Q4 E	2019 E	2020 E	2021 E
Total Revenues	**$1.3**	**$0.4**	**$0.4**	**$0.5**	**$0.5**	**$1.8**	**$2.2**	**$3.0**
YOY Growth	*71%*	*118%*	*173%*	*71%*	*-30%*	*37%*	*24%*	*36%*
Cost of R&D Revenue	$1.0	$0.3	$0.4	$0.4	$0.4	$1.4	$1.8	$2.4
Provision for Contract Losses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
R&D	$2.1	$0.7	$0.7	$0.7	$0.7	$2.8	$3.2	$3.5
R&D Related Party	$1.2	$0.4	$0.3	$0.3	$0.2	$1.2	$1.8	$2.0
G&A	$4.5	$1.4	$1.1	$1.2	$1.2	$4.9	$4.6	$4.8
Foreign Currency Exchange	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Income from operations	($7.6)	($2.4)	($2.0)	($2.1)	($2.0)	($8.6)	($9.1)	($9.7)
Operating Margin	*-586%*	*-606%*	*-457%*	*-469%*	*-418%*	*-483%*	*-415%*	*-323%*
Interest Income	$0.9	$0.3	$0.2	$0.2	$0.2	$0.8	$0.6	$0.5
Other	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Pre-Tax Income	($6.7)	($2.2)	($1.8)	($1.9)	($1.8)	($7.8)	($8.5)	($9.2)
Provision for Income Tax	($1.0)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Tax Rate	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Net Income	**($5.7)**	**($2.2)**	**($1.8)**	**($1.9)**	**($1.8)**	**($7.8)**	**($8.5)**	**($9.2)**
Net Margin	*-439%*	*-540%*	*-416%*	*-429%*	*-380%*	*-438%*	*-386%*	*-307%*
Reported EPS	**($0.21)**	**($0.08)**	**($0.07)**	**($0.07)**	**($0.07)**	**($0.29)**	**($0.32)**	**($0.34)**
YOY Growth	*178%*	*12.2%*	*20.5%*	*30.4%*	*257.4%*	*41%*		
Shares Outstanding	27.67	26.71	26.70	26.70	26.70	26.70	26.70	26.70

Source: Company Filing // Zacks Investment R

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HISTORICAL STOCK PRICE

Dyadic International, Inc. – Share Price Chart



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