

29 October 2013 ASX Release

#### **Actinogen Limited (ASX: ACW)**

#### **September Quarter Activities**

The Board of Actinogen Limited (ASX: ACW) would like to update the Company's shareholders and the market on its activities over the last quarter.

#### Recapitalisation

On 11 September 2013, the Company announced it has accepted an offer from Otsana Capital, in collaboration with Forrest Capital, to recapitalise the Company that will result in all the outstanding debts of the Company being repaid and sufficient cash being injected into the Company to support its near-term business objectives.

The implementation of the recapitalisation will be subject to receipt of all necessary shareholder and regulatory approvals.

The proposal from Otsana Capital and Forrest Capital, as outlined in the Notice of Meeting, can be summarised as follows:

#### Consolidation of Capital

Subject to Shareholder approval, the Company will consolidate the Shares and Options, currently on issue, on a one (1) for two (2) basis (Consolidation). Approval for the Consolidation is being sought pursuant to Resolution 2.

#### Capital Raising

The Company will undertake a post-Consolidation capital raising of:

- 1. up to 150 million Shares at an issue price of \$0.01 per Share (Share Placement); and
- 2. up to 50 million New Options at an issue price of \$0.00001 per New Option (Option Placement) exercisable at \$0.02 each on or before 30 November 2018),

to sophisticated and professional investors as nominated by Otsana Capital and Forrest Capital, to raise up to \$1,500,500 (together the Capital Raising). The Company is seeking Shareholder approval for the Share Placement under Resolution 3 and the Option Placement under Resolution 4.

#### Loan Facility Agreement

Pursuant to an agreement dated 24 September 2013, Otsana Capital has made available an unsecured loan facility to the Company of up to \$100,000 (Facility) (Loan Facility Agreement).



The material terms of the Loan Facility Agreement are as follows:

- 1. The Company may draw down on the Facility in tranches of up to \$20,000;
- 2. The sole approved purpose of the Facility is to fund the Company's short term working capital requirements in accordance with a budget approved by Otsana Capital;
- 3. Interest will accrue daily on the outstanding balance of the Facility at the rate of 15% per annum, payable quarterly in arrears;
- 4. The repayment date will be the earlier of the date falling 3 months from the date of the first advance under the Facility and the day after the Annual General Meeting (Repayment Date); and
- 5. Otsana Capital agrees that the outstanding principal under the Facility (but not including accrued but unpaid interest) (Outstanding Principal) at the Repayment Date may be converted into Shares at a deemed price of \$0.01 per Share (on a past-Consolidation basis). The Company is seeking Shareholder approval for the conversion of the Outstanding Principal into Shares under Resolution 7.

#### **Notice of Annual General Meeting**

The Company has despatched to the shareholders the documents for the Notice of Annual General Meeting to be held on 29 November 2013 (10.00am WST), detailing the recapitalisation proposal and all necessary shareholder resolutions.

The Board of Directors of the Company supports the proposal and the Directors intend to unanimously recommend the proposal to shareholders and vote their own shares in favour of the necessary resolutions to approve the proposal.

The Board believes that Otsana Capital and Forrest Capital will assist the Company in expanding the Company's existing core business, as well as identifying and evaluating other potential opportunities that could create additional shareholder value in the sector.

#### **Changes to the Board**

The Company is pleased to welcome the appointments of Dr Brendan de Kauwe and Mr Daniel Parasiliti to the Board, as well as Actinogen's new Company Secretary, Mr Peter Webse, as part of the recapitalisation proposal.

#### Dr Brendan de Kauwe

Dr de Kauwe studied a Bachelor of Science and a Bachelor of Dental Surgery at the University of Western Australia. He also holds a Post Graduate Diploma in Applied Finance, majoring in Corporate Finance, is currently completing his Masters in Applied Finance and is an ASIC compliant (RG146) Securities Adviser.



Dr de Kauwe's extensive science and bio-medical background with more than 10 years' experience in the health sector; coupled with his finance backing, gives him an integral understanding in the evaluation of projects over a diverse range of sectors.

Dr de Kauwe is currently a Director of ASX listed Virax Holdings Limited (ASX Code: VHL).

#### Mr Daniel Parasiliti

Mr Parasiliti has many years' experience in Injury Management, Industrial Health as a private practice and independent physiotherapy practitioner. He has extensive knowledge in Physiotherapy and Allied Health Consultancy, policy, business and patient management. He has specialised in the treatment of Musculoskeletal and occupational pathology.

Mr Parasiliti has far-reaching experience with Government liaison and Policy, and was the former Liberal Candidate in the State election for the once safe Labor seat of Midland. Daniel led the campaign, and managed strategy to turn the seat of Midland to a now most marginal seat in Australia with 0.05% discrepancy. Daniel has worked extensively with State and Federal Government's with policy, community liaison, campaign strategy/management and assisting with numerous portfolios including Health.

Daniel is currently completing his Post Graduate Juris Doctorate of Law at Murdoch University, where he has a focus on property, contract, mediation, and corporation law.

Professor Alan Morton, Dr David Keast, Simon England and Dr Zhukov Pervan have all resigned from the Board. The Company wishes them all the best and thanks them for their many years of service to the company.

#### **Appointment of Scientific Consultant**

As announced on 28 October 2013, the Company is please to retain the services of Dr David Keast as Scientific Consultant.

Dr Keast was an integral member of the Actinogen team and headed up the research and development of Actinogen's ongoing Actinomycetes projects. Dr Keast was a founder in many of the Company's current research streams and has invaluable knowledge and experience in this specialist field.

Dr Keast will play a key role in the relocation of the Company's laboratory to new premises due to the refurbishment currently underway at the QEII Medical Centre; the re-establishment of the research team, and also be the specialist consultant to the projects moving forward.

Dr Keast was involved in the previous project trials, making his appointment seamless in transition. The Company welcomes Dr Keast back to the Actinogen team and is extremely pleased to have retained his invaluable services.



Dr David Keast CDA, BSc, MSc, PhD, MASM.

Professor Keast was on the staff of the University of Western Australia for more than 34 years. He is currently an Honorary Research Fellow in microbiology at the University of Western Australia. He has over 225 publications, reviews and chapters in international scientific journals in the areas of microbiology, immunology and sports science. He has wide experience in reviewing research applications for medical, cancer research and biological research for the major granting bodies in Australia. He has broad experience in administration, particularly at higher degree scholarship levels and reviewed and examined research at all levels. He has experience in contract research and patent development.

During the 1980s Dr Keast developed and ran a large actinomycetes isolation, screening and research and development program at the University of Western Australia, which was financed by the multi-national pharmaceutical company, Merck Sharp and Dohme.

#### **Actinogen Projects**

#### Background

Actinogen's aim is to identify and isolate soil microorganisms, known as actinomycetes, which are capable of producing bioactive compounds (or exhibiting properties in their own right) of commercial value. Actinogen seeks to achieve this aim by sampling Western Australian soils and testing actinomycetes isolates identified in those soils. The Company has one of the largest libraries of isolates in Australia and specialises in finding unique properties of these actinomycetes. The microorganisms are metabolically diverse and produce bioactive molecules such as bacterial antibiotics, anti-viral agents, anti-tumour agents, antifungal agents and immunosuppressive agents that are used for humans, animals and in agriculture.

#### Plant Growth Hormone Project

The Company's forefront project in 2013 is the recent discovery of a growth hormone that is being produced by one of Actinogen's actinomycetes. The actinomycetes are applied as a dried powder directly to the seeds of plants such as broad beans, peas and wheat at planting. Under these conditions, tests run by Actinogen and an independent WA University show that the actinomycetes promote extra growth in the trial plants.

The Company is very encouraged by the recent results, which were announced to the market on 18 June 2013. The trials completed by a WA University showed a mean average increase of growth of 10.9% for pea tops. The trials also showed increased tiller growth (growth shoots) on wheat plants when the Actinogen growth hormone was applied.

The Company intends to consider field trials for the project in 2014, once funding has been secured and it hopes to produce a product, which farmers and other plant producers can use on food crops and other plantations.



#### Salt Tolerance Project

Actinogen has been approached by third parties expressing interest in the Company's salt tolerant actinomycetes project. Actinogen has been screening actinomycetes from its existing database and testing them to see if they have any ability to survive in salty environments. The aim of this research is to develop a product that will help farmers and other plant producers grow plants and crops in salt affected environments, which is a growing problem worldwide and in particular within Australia. Recent screening shows encouraging results identifying four isolates that can tolerate 10% saline, have the potential to survive in high salt environments and continue to lead to the production of humus to aid in the re-establishment of salt tolerant plants and the rehabilitation of salt affected soils.

The Company has more recently entered into a non-disclosure agreement with a party of interest to further explore the synergies with their existing projects with the potential for commercial collaborations.

#### Antibiotic Research Project

The versatility of the Company's actinomycetes library is further highlighted via its antibiotic research project. The library has been screened to identify actinomycetes that produce substances, which have an effect against bacteria, including bacteria which have become antibiotic resistant. Antibiotic-resistant bacteria are becoming an increasing global problem, with much research and investment directed to discovering new effective agents and treatment modalities. Actinogen owns a private existing database of over 6000 actinomycetes. The actinomycetes are then tested against the MRSA panel, Candida, VRE, P. aeruginosa and the anaerobic pathogen, Clostridium difficile, to determine whether they have activity against the bacteria. These testing panels consist of clinical isolates of microorganisms that have developed serious antibiotic resistance patterns and can therefore be used to increase the likelihood of finding new antibiotics.

Actinogen employs a series of screening tests which become more stringent. Primary screening is a rapid test to detect the production on solid agar of an isolate producing an antibiotic directed to one or more of the test organisms outlined above. Secondary screening is then carried out on known antibiotic producing isolates, in liquid culture. Tertiary screening is then used to determine the chemical nature of the antibiotic. Once anactinomycetes produces a substance that shows resistance to bacteria such as MRSA, Actinogen tries to identify the substance from the public literature and databases. If the substance cannot be matched to an existing substance, it is sent to an independent laboratory to obtain a molecular structure of the substance.

After tertiary screening, 69 isolates have shown activity against the entire MSRA panel, 11 isolates have shown activity against the entire Candida sp. panel and 58 isolates have shown activity against VRE. Each substance with activity against the MRSA panel and Clostridium difficile has the potential to become a new antibiotic; however significant further testing is required in order for this to be established. The Company intends to further explore the potential of these initial results once further funding is secured.

In addition, the Company has other projects utilising its extensive actinomycetes library.



#### Cancer Stem Cell Research Project

Recently, Actinogen acquired Celgenics, a company advanced in the research on cancer stem cells. Current theory suggests that cancer tumours may contain a tiny proportion of cancer stem cells and that they may be resistant to current chemotherapy. Cancer stem cells may remain after primary chemotherapy and subsequently replicate to give rise to fatal secondary cancer development.

Actinogen plans to utilise its extensive libraries to screen for new agents that may specifically kill or inhibit cancer stem cells that may remain inside the human body and could develop into secondary cancer tumours after chemotherapy has killed the cancer cells. The basic programme screens the supernatants from liquid cultures of the actinomycetes for the presence of bioactive molecules that are either cytotoxic or cytostatic for a series of cell lines derived from various human and animal cancers.

#### The Bioethanol Project

On 9 November 2011, the Company announced that it had discovered actinomycete isolates that produce cellulose, a key component in the production of bioethanol. The most effective actinomycete isolate discovered by Actinogen, being ACN 4205, has been deposited at the National Measurement Institute in Melbourne under the Budapest Treaty.

The bioethanol project is currently in phase 3 of the above development strategy, and temporarily on hold due to lack of funds. The Company performed further work on the bioethanol project in 2012 and 2013 by investigating the use of a range of yeasts in the fermentation process to convert the cellulose end products to bioethanol. The next phase of the commercialisation strategy is to build a pilot plant, however the Directors have elected to put the pilot plant on hold until further funding is raised and the results demonstrate that sufficient sugars are being produced by Actinogen's cellulose to commercially produce bioethanol.

#### Shikimic Acid Project

In July 2012, Actinogen discovered that it could produce shikimic acid from certain actinomycetes. This shikimic acid has been produced on a molecular level only, and not yet on a scale sufficient to commercialise the project. Shikimic acid is the main (and one of the most expensive) components used to produce the influenza medication, Tamiflu. Actinogen's method for the production of shikimic aid is different from and potentially cheaper than, the current processes of producing shikimic acid currently be utilised by the primary manufacturers such as Roche.

#### **Biofumigation Project**

In early 2012, Actinogen found actinomycetes that synthesise volatile bioactive molecules (polyenes), which may inhibit and/or kill pathogenic fungi. Actinogen is investigating whether these polyenes can be used for biofumigation.



#### **Outlook**

The additional early stage projects outlined above have all shown encouraging results and will be further evaluated for their development potential at the appropriate time and once the Company has secured further funding.

As announced on 12 September 2013, the Company's laboratory operations have been conducted at Queen Elizabeth II Medical Centre in Nedlands (QE II). The wing in the K Block which housed not only Actinogen's laboratory, but numerous other laboratories and research centres, has been closed for major renovations as part of the revitalisation and re-development of QE II. Actinogen was required to relocate its operations by the end of September 2013. Due to funding difficulties, the Company has chosen to postpone the immediate relocation of its laboratory and to store its non-essential equipment until such time as suitable new facilities can be finalised and additional funds have been secured. The Company retains a strong relationship with the existing operators of the laboratory space and has an agreement to maintain its core equipment and actinomycetes library at an alternate site at QE II until its new laboratory becomes operational.

Rule 4.7B

# Appendix 4C

# Quarterly report for entities admitted on the basis of commitments

Introduced 31/03/00 Amended 30/09/01, 24/10/05, 17/12/10

Name of entity	
ACTINOGEN LIMITED	
ABN	Quarter ended ("current quarter")
14 086 778 476	30 September 2013

# Consolidated statement of cash flows

Cash flows related to operating activities		Current quarter \$A'000	Year to date (3 months) \$A'000
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) staff costs	(11)	(11)
	(b) advertising and marketing	-	-
	(c) research and development	(60)	(6o)
	(d) leased assets	-	-
	(e) other working capital	(62)	(62)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	-	-
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other (provide details if material)	-	-
		(133)	(133)
	Net operating cash flows		

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<sup>+</sup> See chapter 19 for defined terms.

		Current quarter \$A'000	Year to date (3 months) \$A'000
1.8	Net operating cash flows (carried forward)	(133)	(133)
1.9	Cash flows related to investing activities Payment for acquisition of: (a) businesses (item 5) (b) equity investments	- -	- -
1.10	(c) intellectual property (d) physical non-current assets (e) other non-current assets Proceeds from disposal of: (a) businesses (item 5) (b) equity investments	- - - -	- - - -
	<ul><li>(c) intellectual property</li><li>(d) physical non-current assets</li><li>(e) other non-current assets</li></ul>	- - -	- - -
1.11 1.12 1.13	Loans to other entities Loans repaid by other entities Other (provide details if material)	- - -	- - -
	Net investing cash flows	-	-
1.14	Total operating and investing cash flows	(133)	(133)
1.15 1.16 1.17 1.18 1.19	Cash flows related to financing activities Proceeds from issues of shares, options, etc. Proceeds from sale of forfeited shares Proceeds from borrowings Repayment of borrowings Dividends paid Other (Share placement – shares issued post 30 September 2013)	- - 30 - - - 11	- - 30 - - - 11
	Net financing cash flows	41	41
	Net increase (decrease) in cash held	(92)	(92)
1.21 1.22	Cash at beginning of quarter/year to date Exchange rate adjustments to item 1.20	113 -	113
1.23	Cash at end of quarter	21	21

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<sup>+</sup> See chapter 19 for defined terms.

# Payments to directors of the entity and associates of the directors Payments to related entities of the entity and associates of the related entities

		Current quarter \$A'000
1.24	Aggregate amount of payments to the parties included in item 1.2	11
1.25	Aggregate amount of loans to the parties included in item 1.11	
1.26	Explanation necessary for an understanding of the transactions	
	1.24 –Salaries and superannuation paid to a single director.	
	During the quarter the Company received \$30,000 in unsecured loans from related entity.	n directors and a director
No 2.1	n-cash financing and investing activities  Details of financing and investing transactions which have had consolidated assets and liabilities but did not involve cash flows  N/A	a material effect on
2.2	Details of outlays made by other entities to establish or increase their which the reporting entity has an interest	share in businesses in
	N/A	
	nancing facilities available notes as necessary for an understanding of the position.	

		Amount available \$A'000	Amount used \$A'000
3.1	Loan facilities	100,000	-
3.2	Credit standby arrangements	N/A	N/A

As per the ASX announcements on 11 September 2013 and 24 September 2013 the Company has accepted a recapitalisation proposal from Otsana Capital ("Otsana") to undertake a capital raising to raise up to \$1,500,000. Under the terms of the proposal and in advance of the proposed shareholders' meeting to approve the capital raising Otsana has signed a loan agreement to provide an unsecured loan facility of up to \$100,000. There have been no draw downs on this loan prior to the 30 September 2013 quarter end.

Subsequent to quarter end the Company completed a small placement raising \$65,000.

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<sup>+</sup> See chapter 19 for defined terms.

### Reconciliation of cash

show	nciliation of cash at the end of the quarter (as n in the consolidated statement of cash flows) e related items in the accounts is as follows.	Current quarter \$A'000	Previous quarter \$A'000
4.1	Cash on hand and at bank	21	113
4.2	Deposits at call	-	-
4.3	Bank overdraft	-	-
4.4	Other (provide details)	-	-
	Total: cash at end of quarter (item 1.23)	21	113

## Acquisitions and disposals of business entities

			Acquisitions (Item 1.9(a))	Disposals (Item 1.10(a))
5.1	Name of entity		NIL	NIL
5.2	Place incorporation registration	of or		
5.3	Consideration for acquisition disposal	or		
5.4	Total net assets			
5-5	Nature of business			

# **Compliance statement**

1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act (except to the extent that information is not required because of note 2) or other standards acceptable to ASX.

Date: 29 October 2013

2 This statement does give a true and fair view of the matters disclosed.

Sign here:

Company Secretary

Print name: Peter Webse

<sup>+</sup> See chapter 19 for defined terms.