

LIFE SCIENCE AND TECHNOLOGY

Computing is Heading for the Cloud

Suddenly everyone in the technology industry is looking to the sky, but instead of reaching for stars companies are reaching for the Cloud. We, the general technology using public, are already relying on some form of cloud computing, whether we realize it or not. Companies like Google and Amazon, part of the first wave of web wonders, have successfully been using the Cloud for years. Social networking phenomena like Twitter and Facebook, part of the second wave of web wonders, also rely on the Cloud¹. We are tweeting, "friend"-ing, searching and shopping in the Cloud.



WHAT IS CLOUD COMPUTING?

The Cloud enables companies to obtain computing resources, like storage, messaging, processing and databases, from an outside source through the internet². Before the emergence of

the Cloud, software and data were fully contained on the user's machine. Now, rather than buying extra memory and shrink wrapped software, users just need a computer with a web browser and operating system. Users can then access their

data and use software through the Web.

The term "cloud computing" is loosely defined



¹ <http://www.nytimes.com/2011/04/15/business/15cloud.html>

² <http://www.nytimes.com/2008/05/25/technology/25proto.html?scp=1&sq=Cloud%20Computing:%20So%20you%20don't%20have%20to%20stand%20still&st=cse>

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and can be used in reference to a number of different services. Infrastructure cloud computing allows smaller companies to store, process and manage data on remote network servers. It is easiest to understand infrastructure cloud computing by comparing it to other utilities like gas, water or electricity. Users are able to tap into the shared grid, extracting only what they need.

The idea behind so-called Cloud Computing is not new. In previous times it was called time-sharing. This first emerged in the late 1950s. One machine fulfilling the needs of an individual user was inefficient. A computer would be flooded with a burst of information followed by a long pause where no requests were sent to the machine. With time-sharing, a machine could take in and process requests from many users, thereby working constantly rather than in spurts. An article published in Time Magazine in 1965 highlights the, at the time, innovative time-sharing technology: "It links up as many as 500 widely separated customers with one large computer, lets each feed its own problems to the machine by telephone through a simple typewriter console"³. Obviously, Cloud computing has moved beyond reliance on a hard-

line telephone connection and typewriters to transfer information.

HEADS IN THE CLOUD

Cloud computing has been widely recognized as the next big leap in technology development. In his book, "The Big Switch: Rewiring the World, from Edison to Google", Nicholas Carr equates the switch to cloud computing with the switch to grid based electric utilities. Switching to grid suddenly gave companies and individuals access to a vast amount of affordable electricity to be tapped into when need. Carr suggests that the Cloud can present companies and individuals with a similarly drastic change in the amount of affordable and accessible computing resources⁴.

Huge growth for the cloud computing industry is anticipated. IDC (International Data Corporation), an American research firm, estimates that cloud revenue will reach \$55.5 billion by 2014 and is growing at more than 25 percent a year.

Big names in the technology industry like I.B.M., Yahoo and Microsoft are all now venturing into the cloud. If this technology is nothing new, then



³<http://www.time.com/time/magazine/article/0,9171,834596,00.html>

⁴Carr, Nicholas. *The Big Switch: Rewiring the World, from Edison to Google*. New York: W.W. Norton & Company, 2008.

why are technology giants only now clambering to the Cloud? Huge companies like Microsoft and I.B.M. already have developed and financed their data storage capacity and their main servers. The structure of these companies already functions outside the cloud and switching entirely would require massive reorganization.

Smaller and newer technology companies are finding cloud computing incredibly appealing. Cloud computing offers extremely efficient means of distributing digital services. Companies no longer need to invest in big servers and data storage of their own. Often with the Cloud, companies pay only for how much they use. This model could potentially reduce costs for companies by about half, analysts say⁵. In the past, small companies anticipating growth needed to invest in enormous data storage and processing space in order to be prepared for increased activity. This space would go unused until the anticipated growth actualized. Alternatively rapid growth for unprepared small technology firms would result in the crashing of their systems and the shutdown of their technology product, be it an application for Facebook or software distributed over the internet.

THUNDERSTORMS THREATEN THE CLOUD

With the potential to decrease costs, raise efficiency and increase the capacity for growth, the Cloud seems to be the answer technology companies have been waiting for. But of course, occasionally thunderstorms threaten the fair weather skies of the Cloud. Certain risks accompany the use of cloud computing.

Amazon, beyond its online retail website, offers computing resources and is well known as a leader in the Cloud business. Amazon experienced technical problems for a few days in April, causing enormous problems for many businesses that rely on its data centers for their daily operations. Many of the bigger companies using Amazon's cloud computing services invested extensively in backup and recovery services, which meant they felt none of the glitch's repercussions. Those companies that did not invest in such services were harder hit. Most often smaller technology start-ups bypassed the more expensive backup and recovery features available, opting to take the risk. For some of these companies, the glitch meant interrupted services or even complete shutdown of their website. All technologies are accompanied by the risk of technical problems and system failures. The problems with Amazon's services have



 ⁵<http://www.nytimes.com/2011/04/15/business/15cloud.html>



encouraged all users cloud computing to take more precautionary measures.

Despite the Amazon interruption, cloud computing is still generally considered to be safer than data centers operating by individual companies. While technological glitches are always a possibility, cloud computing providers have great resources available to make these instances rare.

TELECOMMUNICATION AND THE CLOUD

Telecommunication companies are also seeking out a stake in cloud computing. Many large telecommunication companies have been reaching for the Cloud in order to accommodate the constantly evolving communication needs of companies.

CenturyLink, America's third largest telecommunications company, began the process of the acquiring a data center services company called Savvis for \$2.5 billion⁶. The deal will put CenturyLink in \$700 million in debt. Telecommunications companies are beginning to see cloud com-

puting as an absolute necessity, despite the high price tag.

In January, American telecommunication giant, Verizon, announced it would be buying into the cloud. Verizon then purchased a company, Terremark, which provides large enterprises with mass data storage services, for \$1.4 billion⁶. But it is not just the huge players in the telecommunications industry that are using the Cloud.

THE SKY IS THE LIMIT

Smaller emerging companies have found innovative ways of using cloud computing technology. In recent years there have been huge advancements in telecommunications technology. The telecommunications needs and expectations of companies are extensive and unique to each company's situation.

Telecorp Inc., a growing Canadian SaaS company, has identified the growing need for customized telecommunications solutions. There has been a fundamental shift; Businesses are no longer look-



⁶<http://dealbook.nytimes.com/2011/04/28/on-the-hunt-for-a-stake-in-cloud-computing/?scp=1&sq=telecoms%20look%20to%20cloud%20computing&st=cse>

ing for the newest telecommunications product, instead they require customized and flexible solutions. And this is exactly what Telecorp is offering.

Using cloud computing, Telecorp provides SaaS (Software as a Service). Rather than purchasing and constantly updating shrink wrapped software, companies can just reach into the Cloud. This pay-per-use system allows companies to access updated services without having to pay costs for servers, licensing or hosting.

Telecorp specializes in CRM (customer relationship management) product offerings. CRM is a term generally used to describe a company's strategy for interacting with their customers. The CRM services offered by Telecorp provides companies with resources to improve almost all aspects of the interactions with their customers, as well as the daily operations of the company.

The iSales system from Telecorp focuses on generating sales. This system gives even small businesses greater marketing and sales capacity. It is based on the best practices of Call Center opera-

tions. Companies need not invest in the hardware and personnel for a telemarketing team. The advantages of a call-center are available on demand.

More systems options, like iConnects for email, voicemail, etc. and iStaff for staffing and recruiting, are available. Telecorp's iMeet system allows companies to interact with their customers through web meetings. This software provides web conferencing, telephony tools, recording capabilities, video chat and support for webinars.

With the help of the Cloud, Telecorp can customize a systems package for each company. Telecorp first diagnoses the needs of the company by taking into account the company's business sector, current sales approach and cycle and the target market. Then a unique systems package is created, providing the company with the services that fit its needs. The client company pays only for the services that it uses.

As huge technology companies like IBM and Dell investigate how they can acquire and use cloud computing, small innovative companies like Tele-

corp are already using this technology to provide customized solutions for their client companies.



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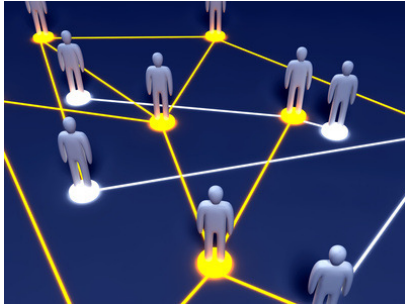
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Company Fact Sheets



Telecorp, Inc., Ratios



- ◇ Symbol: Frankfurt 3TL
- ◇ Website: www.telecorp.com
- ◇ 52 Week High 1.35 EUR

Source: comdirect, 19 June

Chart & Company Highlights



Source: Comdirect, Frankfurt Stock Exchange, 14 June

- ◇ Provides innovative communications solutions at low cost by using cloud computing technology
- ◇ Technology can be useful in a number of different business contexts (for example: medical, healthcare, sales, retail, hotels)
- ◇ Specializes in CRM (customer relationship management) software solutions

Field of Activity & News

Telecorp offers a variety of products and services for many individuals and businesses. Solutions that address communication needs and message delivery. Telecorp offers many solutions for customer communication, prospecting and customer contact through “State of the Art” technologies.

- ◇ 11 May 2011: Telecorp Inc. Secures More Sales with the Meteor Group of Companies
<http://www.telecorp.com/2011/05/11/telecorp-inc-secures-more-sales-with-the-meteor-group-of-companies/>
- ◇ 26 April 2011: Telecorp Announces Acquisition of ByteXit
<http://www.telecorp.com/2011/04/26/telecorp-announces-acquisition-of-bytexit/>
- ◇ 24 March 2011: Prime Capital Fund LLC– US Private Equity Firm Invests in Telecorp Inc.
http://www.eraecosystems.com/whats_new/company_news/index.php?&content_id=156

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Company Presentation

www.media.dr-reuter.eu/Telecorp_Investment_Presentation.pdf

Phylogica Ltd, Ratios



◇ Symbol, ASX	PYC
◇ Website:	www.phylogica.com
◇ Market Capitalization (on 19 June)	AU\$ 20.13 Mio.
◇ Receipts from customers Jan-March 11	AU\$ 973 000
◇ Cash at end of quarter March 11	AU\$ 2,946 Mio.

Source: Phylogica Limited Quarterly report

Chart & Company Highlights



Source: Comdirect, Australian Securities Exchange, 14 June

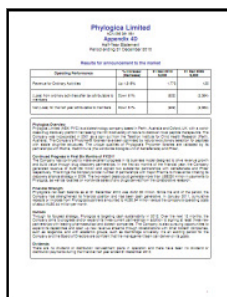
- ◇ Unique drug discovery resource for pharmaceutical industry
- ◇ Technology is fully validated, scalable and optimized for commercialization
- ◇ Broad patent protection for entire class of drugs
- ◇ Initiated commercialization phase, several late-stage deal negotiations
- ◇ Strategy for near-term cash-sustainability, driven by fee-for-service drug discovery
- ◇ Cooperation with Roche since December 2009 and with Astra-Zeneca since August 2010

Field of Activity & News

Phylogica has discovered and developed a unique proprietary class of targeted peptide therapeutics (Phylomer® peptides). These peptides exhibit competitive therapeutic, manufacturing, and commercial advantages over other more traditional targeted biologics such as proteins, monoclonal antibodies and most current therapeutic peptides. The hit to target ratios from Phylomer® libraries are high and the proportion of hits which are functional is also very high.

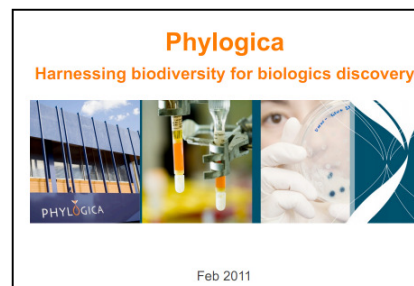
- ◇ 10 June 2011: NAOD Asset Management 10.2% shareholder
www.asx.com.au/asxpdf/20110610/pdf/41z4sknwkykrcz.pdf
- ◇ 25 May 2011: Progress on Cell Penetrating Peptides
<http://www.asx.com.au/asxpdf/20110510/pdf/41ykq9yjlbggl.pdf>
- ◇ 23 May 2011: Roche Collaboration Extended
<http://www.phylogica.com/media/articles/Investors---ASX-Announcements/20110523-Roche-Collaboration-Extended-617/110523RocheCollaborationExtended.pdf>
- ◇ 23 May 2011: Change in Substantial Shareholding Notice
<http://www.phylogica.com/media/articles/Investors---ASX-Announcements/20110523-Change-in-substantial-shareholding-notice-616/110523CHRSubstantialShareholdingNotice200511.pdf>

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📄 Half Yearly Report and Accounts

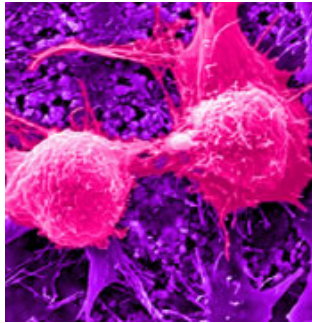
<http://www.phylogica.com/media/articles/Investors---Financial-Reports/20110224-Half-Yearly-Report-and-Accounts-584/949489.pdf>



📄 Company Presentation

<http://www.phylogica.com/media/articles/Investors---Investor-Presentations/20110201-Investor-Presentation-566/PYInvestorFeb2011.pdf>

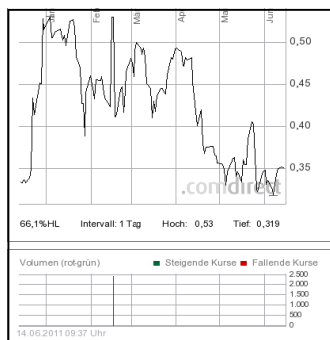
Tissue Therapies Ltd, Ratios



◇ Symbol:	ASX	TIS
◇ Website:		www.tissuetherapies.com
◇ Market Capitalization (on 14 June)		AU\$ 80,97 Mi
◇ Revenue from Continuing Operations		AU\$ 73,500
	(Half year ending 31 December 2010)	
◇ Research Grants Received		AU\$ 129,419
	(Half year ending 31 December 2010)	

Source: Tissue Therapies Ltd, ASX Half-Year Report, 31 December 2010

Chart & Company Highlights



Source: Comdirect, Frankfurt, 14 June

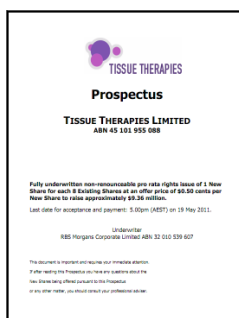
- ◇ Emerging leader for biomedical technologies for wound healing, tissue repair, cell culture and other applications
- ◇ VitroGro®, a synthetic scaffold, restores cell attachment and migration, the essential elements of tissue repair and wound healing
- ◇ Developing more effective treatments for acute and chronic wound healing applications including chronic skin ulcers and burns

Field of Activity & News

Tissue Therapies Ltd provides wound healing, tissue repair and cell culture technology through a novel growth factor platform technology VitroGro®. VitroGro® is an animal product free, multimeric delivery system for growth factors, enhancing cell replication, protein synthesis and migration.

- ◇ 29 April 2011: Tissue Therapies Despatches Rights Issue Prospectus Today
http://www.tissuetherapies.com/investors/TIS%20ASX%20110429%2011313049_3%20Prospectus%20despatched%20Rights%20Issue.pdf
- ◇ 20 April 2011: Tissue Therapies Releases Quarterly Report
<http://www.tissuetherapies.com/investors/110420%20TIS%20ASX%20App%204C.pdf>
- ◇ 15 April 2011: Letter to Eligible Shareholders
<http://www.tissuetherapies.com/investors/110415%20Letter%20to%20shareholders%20-%202011%20Rights%20Issue.pdf>

Download Prospectus & Presentation



Prospectus

[http://www.tissuetherapies.com/investors/110415%20Rights%20Issue%20Prospectus%20-%20Tissue%20Therapies%20Limited%20\(2\).pdf](http://www.tissuetherapies.com/investors/110415%20Rights%20Issue%20Prospectus%20-%20Tissue%20Therapies%20Limited%20(2).pdf)



AGM Presentation

<http://www.tissuetherapies.com/investors/101013%20TIS%20CEO%20AGM%20Pres.pdf>



Fairs & Congresses

Telecom World Congress

21-23 June 2011

Amsterdam, Netherlands

Telecom World Congress 2011 unites global leaders in the industry at the definitive leadership forum for fixed line, mobile, satellite broadband and wholesale operators across 3 days with over 10 hours of networking time. The conference provides a unique opportunity to gain insights from A list speakers on how to structure business strategy and create a sustainable business model.

QUICK FACTS

WHEN?

21-23 June 2011

MORE INFORMATION

<http://www.terrapinn.com/2011/twc/>

WHERE?

Amsterdam, Netherlands

CONTACT

enquiry.uk@terrapinn.com

PROBIOTECH 2011

23-24 June 2011

Milan, Italy

As for the previous editions, PROBIOTECH 2011 will provide the last updated information on the use (industrial applications, regulation) of these functional ingredients and will answer practical industrials' issues by a series of scientific- & technological-oriented conferences on prebiotics and probiotics.

QUICK FACTS

WHEN?

23-24 June 2011

MORE INFORMATION

<http://www.probiotech.eu/>

WHERE?

Milan, Italy

CONTACT

contact@probiotech.eu

IT & Business 2011

20-22 September 2011

Stuttgart, Germany

IT & Business, the trade fair for software, infrastructure and IT services, is the IT trade fair for small and medium-sized businesses. Here, IT managers and commercial decision-makers are presented with business IT solutions which are closely oriented towards SMB requirements. The products on show range from ERP to PPS to MES, from CRM to DMS, IT security to IT infrastructure. Further themes include BPM, BI and Green IT. Meet with the flagships of the industry, make new contacts and find out about current developments at the trade fair stands and during the top-class framework programme.

QUICK FACTS

WHEN?

20-22 September 2011

MORE INFORMATION

http://www.messe-stuttgart.de/cms/business11_blick0000.0.html?&L=1

WHERE?

Stuttgart, Germany

CONTACT

info@messe-stuttgart.de