

YPB Group Ltd (YPB) | Initiate Coverage with Buy Rating

Rating: **BUY**
 Target Price¹: **\$0.42**
 Projected Return: **71%**

¹ 12 month target

End-to-end anti-counterfeiting service

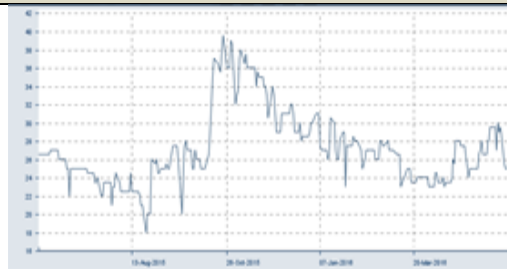
Company Statistics

Share Price (AUD\$)	0.245
Market Cap (AUD\$)	46.7
Enterprise Value (AUD\$)	46.9
Issued Shares (mil)	190.8
Options (mil) (unlisted)	40.0
Cash (AUD\$)	2.9
Debt (AUD\$)	3.1

Earnings Summary

FY End (Dec)	2015	2016e	2017e	2018e
Revenue (\$AU)	1.6	5.4	21.7	36.4
EBITDA (\$AU)	-5.7	-5.7	5.8	13.1
Net Income (\$AU)	-6.8	-6.9	4.6	8.4
EV/EBITDA	N/A	N/A	7.6x	2.7x

Share Price (A\$ps)



Company Description

YPB Group Ltd is an anti-counterfeit technology company with an end-to-end product offering servicing primarily the Chinese market.

Analyst

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Investment Summary

YPB is the only company with a CTAAC licence to sell invisible tracers within China. The company has patented software that enables it to embed invisible tracers into bank notes, pharmaceuticals and other products to confirm authenticity, thus protecting companies/governments against counterfeit products and help protect company brands.

Investment Highlights

- Only company with a CTAAC licence to sell invisible tracers into China
- Strong revenue growth following recent contract wins as well as advanced contract discussions with several other parties
- Anti-counterfeit market continues to grow, with market expectations of between 10-20% growth per annum out until 2020
- Significant number of companies currently do not use any anti-counterfeit technology within their products
- Long-term upside potential via the company's customer engagement smartphone application
- Competition the key risk, with several North American companies currently having invisible tracer technology. Having said that, we understand that it can take 2-3 years for a company to obtain a CTAAC licence.

Investment Recommendation

Initiate with a Buy Rating and \$0.42 target price.

Our target price reflects a 71% premium to the last traded price and is based on our DCF valuation using a WACC of 13.7%.

YPB published FY17E Profit Before Tax guidance of A\$5m (BW A\$4.6m), while also providing a range of possible revenue outcomes – contingent on securing a number of client contracts. In our view this reaffirms our expectations that YPB is about to turn the corner and achieve significant revenue growth leading to a move to positive free cash flow generation.

YPB's product is of a high quality given its invisible tracer is virtually impossible to copy, and can only be detected by the use of its scanner technology.

Given a large number of companies do not use any form of anti-counterfeit technology, we see these companies providing the most upside to YPB's revenue growth.

The key risk to our view is competition within the anti-counterfeit market where competitors are looking to develop improved technology which could potentially supersede YPB's invisible tracer technology. Other risks include the time required to secure a new client contract, balance sheet flexibility, and exchange rate risk.

Summary Financials

P&L (A\$m)	FY15	FY16E	FY17E	FY18E	Balance sheet (A\$m)	FY15	FY16E	FY17E	FY18E
Total Revenue	1.6	5.4	21.7	36.4	Cash & equivalents	2.9	0.8	5.7	14.4
COGS	5.1	9.5	14.1	21.3	Receivables	4.6	10.5	16.9	20.2
Corporate	1.4	1.6	1.8	2.0	Inventory	0.2	0.8	2.7	4.0
Other	0.8	0.0	0.0	0.0	Other	0.0	0.0	0.0	0.0
EBITDA	-5.7	-5.7	5.8	13.1	Total current assets	7.6	12.1	25.3	38.6
D&A	0.9	1.0	1.0	1.1	Net PP&E	0.3	0.0	-0.3	-0.6
EBIT	-6.6	-6.7	4.8	12.0	Other	17.8	17.8	17.8	17.8
Net interest	-0.1	-0.2	-0.2	0.0	Total non-current assets	18.1	17.8	17.5	17.3
Pretax profit	-6.8	-6.9	4.6	12.0	Total assets	25.8	29.9	42.8	55.8
Tax	0.0	0.0	0.0	3.6	Payables	1.4	3.3	5.2	7.8
Minorities	0.0	0.0	0.0	0.0	Short term debt	0.0	0.0	0.0	0.0
NPAT (adj)	-6.8	-6.9	4.6	8.4	Other	0.0	0.0	0.0	0.0
Abnormal items	0.0	0.0	0.0	0.0	Total current liabilities	1.4	3.3	5.2	7.8
NPAT (rep)	-6.8	-6.9	4.6	8.4	Long term debt	3.1	3.1	3.1	3.1
Ave shares	124.3	180.6	190.8	190.8	Other	0.0	4.7	11.0	13.1
EPS adj (A¢)	-5.4	-3.8	2.4	4.4	Total long term liabilities	3.1	7.8	14.1	16.2
DPS (A¢)	0.0	0.0	0.0	0.0	Total liabilities	4.5	11.1	19.4	24.0
					Total common equity	21.2	18.9	23.4	31.8
Cash Flow (A\$m)	FY15	FY16E	FY17E	FY18E	Ratios & Valuations	FY15	FY16E	FY17E	FY18E
Cash receipts	0.8	5.4	21.7	36.4	ROE (%)	na	na	20%	26%
Cash payments	-6.6	-11.1	-15.9	-23.3	ROA (%)	na	na	11%	15%
Net interest	0.1	-0.2	-0.2	0.0	Net debt/equity (%)	na	na	na	na
Tax paid	0.0	0.0	0.0	-3.6	Interest cover - EBIT (x)	na	na	19.3	48.4
Other	0.0	0.0	0.0	0.0	P/E (x)	na	na	10.2	5.6
Cash flow from operations	-5.7	-5.9	5.6	9.5	P/B (x)	na	na	2.0	1.5
Total capital	-0.3	-0.7	-0.7	-0.8	EV/EBITDA (x)	na	na	7.6	2.7
Acquisitions	-0.4	0.0	0.0	0.0	Dividend yield (%)	na	na	0.0%	0.0%
Divestitures	0.0	0.0	0.0	0.0	Free cash flow yield (%)	na	na	10%	19%
Other	0.0	0.0	0.0	0.0	Sales growth (%)	na	na	304%	68%
Cash flow from investments	-0.8	-0.7	-0.7	-0.8	EBITDA growth (%)	na	na	na	125%
Dividends paid	0.0	0.0	0.0	0.0	EPS growth (%)	na	na	na	84%
Capital raised	7.1	4.5	0.0	0.0	Gross margin (%)	na	na	35%	41%
Repaid debt/borrowed funds	-0.2	0.0	0.0	0.0	EBITDA margin (%)	na	na	27%	36%
Other	0.0	0.0	0.0	0.0	EBIT margin (%)	na	na	22%	33%
Cash flow from financing	6.9	4.5	0.0	0.0					
Total cash flow	0.5	-2.1	4.9	8.7					

December year end

Ratios calculated using YPB.AX share price of \$ 0.245

Source: Company data, BW Equities Research estimates

Investment thesis

Strengths

YPB is the only company with a CTAAC (China Trade Association for Anti-Counterfeiting) licence to sell invisible tracers into China. The company owns and has patents on its intellectual proprietary technology – YPB has 8 separate patents (7 in China and 1 in the USA) with a further 8 patents pending. In our view, **the company's tracer product is of a higher quality** compared to competitor technologies such as coded taggants and microdots. The invisible tracers are permanent, invisible, inexpensive and are easy for customers to implement into their production process. Having said this, we must highlight that there are several companies in Europe and the USA that supply their respective markets with invisible tracer technology; although we understand that it can take 2-3 years for a company to obtain a CTAAC licence.

The company's competitive advantage lies within the creation and manufacturing techniques of the tracers, as well as the company's scanners and smartphone application. All items are designed and manufactured by YPB, with the method only known internally by the company and cannot be copied.

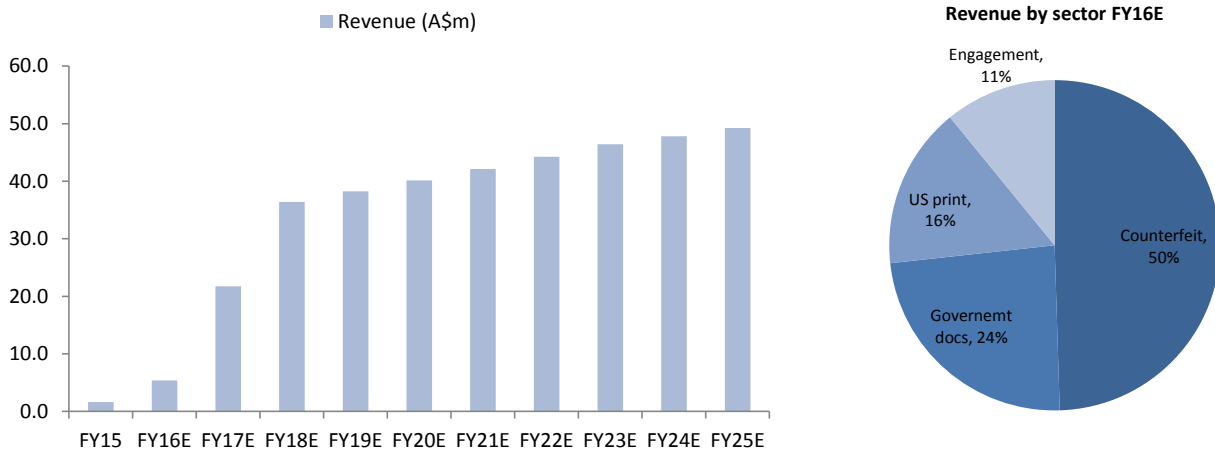
We provide the below chart highlighting the difference between the various forms of anti-counterfeit technology. Technology used can range from Radio-Frequency Identification (RFID), Near Field Communication (NFC), holograms, microdots, UV and IR inks, coded taggants and YPB's patented invisible tracers. We provide a description of the differences between each of these in the below table.

Anti-counterfeit technologies typically fall into one of four categories: Overt (visible to the naked eye), hidden (can be seen using items such as an infra-red pen), Covert (micro or infra-red taggants), and forensic (can only be detected using forensic scanner technology). YPB's technology falls into the forensic category.

Attribute	RFID	NFC	Hologram	Microdot	UV & IR Inks	Coded Taggants	YPB
Cost per application (USc)	15-30	10-25	2-5	2-5	2	1-2	1
Pass/fail reader	YES	YES	X	X	X	YES	YES
Unique product ID per unit	YES	YES	X	YES	X	X	YES
Rapid automated scanning	YES	YES	X	X	YES	X	YES
Can be seen at a distance >1m	YES	X	X	X	X	X	X
Invisible to the eye even under IR/UV/magnification	X	X	X	X	X	X	YES
Durability - traceable if burnt	X	X	X	LOW	LOW	LOW	HIGH
Ease of application	LOW	LOW	MEDIUM	MEDIUM	HIGH	MEDIUM	HIGH
Track and trace enabled	YES	YES	X	YES	X	YES	YES
Reader under US\$20	X	N/A	N/A	X	YES	X	YES

Source: Company Presentation

YPB is on the verge of experiencing **significant revenue growth over the next 2-3 years**. The company's client base has grown considerably over the past 12 months, which we expect will drive material revenue and earnings growth. YPB published FY17E guidance indicating it will be cash flow neutral by 1Q17E and will report profit before tax of A\$5m in FY17E (BW A\$4.6m). While FY16E will be tough in terms of cash flow generation, we expect this to turn around in FY17E with additional contract wins as well as a contribution from the recently announced deal with packaging company Orora. As per the below chart, we expect revenue to grow from A\$1.6m in FY15 to A\$36.4m in FY18E.



Source: BW estimates, Company Data

Underpinning YPB's revenue growth is the **continued growth of the anti-counterfeit authentication market**. Although market data is extremely difficult to compile, data from several sources (including The International Chamber of Commerce, Frontier Economics, OECD, and the US Department of Homeland Security) suggest that the level of counterfeiting globally is experiencing significant growth – with various research bodies estimating the anti-counterfeiting market will grow at 10-20% per annum through to 2020. YPB's focus is China, and approximately 70% of the counterfeit goods seized in the USA originate in China. Customers in China continue to focus on quality products – especially those that are reputable, and for this reason we expect companies who value their brand highly to look for more secure ways to prevent its products from counterfeiting.

YPB's customer base is extremely broad – from large governments, expensive brand names conscious of 'knock-offs', to very cheap large distribution products where the company may be concerned that its product could be copied, or is simply wanting a reliable tracking device. YPB currently supplies its trade marked VariSec™ Foil and MultiSec™ Thread for the use in passports for the United States, South Africa and The Philippines. The foil is used on the front of passports, while the thread helps bind the passport pages together. Both the foil and thread contain YPB's tracer material – which YPB claims is impossible to replicate, hence fake passports are easily identifiable. The current total global market revenue for passport foil and thread is c.US\$7.5m of which YPB currently has 10-20% share (YPB is targeting 30-40% share within 3 years).

The cost to produce YPB's invisible tracers is low, and allows the company to charge a significantly lower price than other anti-counterfeit technologies such as Radio-Frequency Identification (RFID), Near Field Communication (NFC) which can charge anywhere between US10-30 cents per application versus just 1 cent for YPB's invisible tracers. We estimate that YPB can produce tracers for a fraction of a cent – driving significant margins. The cost base is largely fixed with additional contract wins improving group margins significantly.

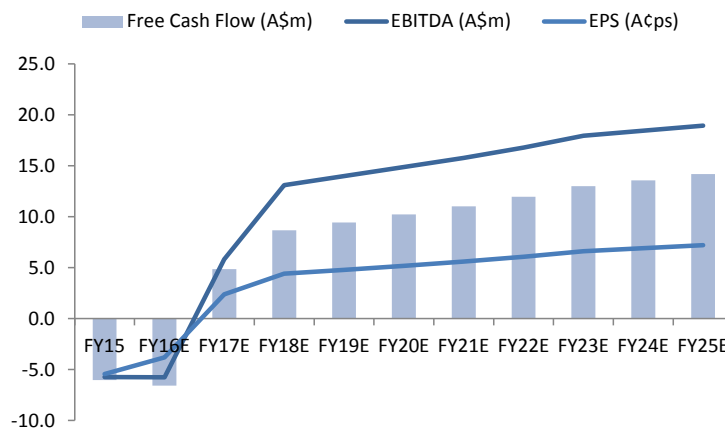
In our view, **long-term upside may be realised through the company's smartphone app** it is developing. While it is not yet fully functional, we see material upside to the company's ability to win client contracts if it is able to develop and implement a smartphone application to allow every day consumers the ability to authenticate products while shopping in-store. Given consumers will also be testing product authentication (not just shop/business owners), the number of security checks will increase dramatically and will allow companies to more effectively track counterfeiting of their products – where/when it is occurring. The application can also notify consumers of store locations and price specials on the products it regularly purchases.

Earnings drivers and outlook

The key to YPB’s earnings growth in the near term is its ability to secure new clients. The company’s cost base is largely fixed, with the manufacture of tracers and scanners much lower than the selling price (tracers can cost a fraction of a cent and in some cases will sell for one cent per application). We forecast FY16E revenues of A\$5.4m versus A\$1.6m in FY15, and we expect this to continue to grow into FY17E (A\$21.7m) as the client base grows. The company provided FY17E Profit Before Tax guidance of A\$5m as well as a breakdown of revenue opportunities it has secured/or advanced revenue opportunities. These amount to A\$37.8m with a further A\$22.8m of intermediate opportunities. We therefore believe our FY17E estimate for revenue of A\$21.7m is conservative. We have YPB reaching A\$36.4m in revenue in FY18E.

The driver of the share price over the next 12 months, in our view, will be contract wins. We expect the financial results in August this year and also in February next year to remain cash flow negative – with the step change in earnings to be achieved in FY17E.

Following the ‘land-grab’ period over the next 2-3 years, we forecast modest revenue and cost growth of 5% per annum for the preceding 5 years. Given most industry research suggesting between 10-20% anti-counterfeit market growth per year until 2020, we see our 5% rate as conservative. We then assume 3% growth between FY23-25E.



Source: BW estimates, Company Data

Valuation and 12 month target price of A\$0.42

We base our 12 month target price on our DCF valuation, and do not use an earnings/EBITDA multiple in our calculation given the company is only in its infancy stages of deriving revenue and earnings – and we believe that investors will mostly be focussed on the long term prospects of the business rather than short term earnings. With that in mind, the stock is trading on an EV/EBITDA multiple in FY17E of 7.6x. **We value the company on a DCF valuation of A\$0.42** per share – which is calculated using a WACC of 13.7% and long term growth rate of 3.5%.

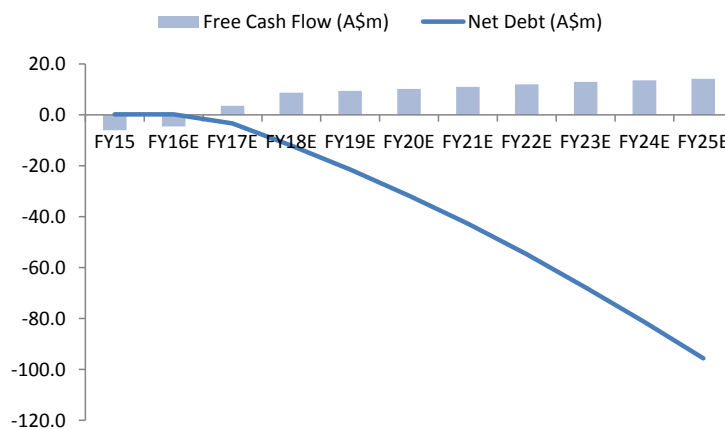
Key downside risks

Competition: While YPB is the only end-to-end supplier of anti-counterfeit technology and customer engagement, there is a risk other companies will find alternate ways to counter fraud. We expect significant growth in YPB’s product sales over the coming 12-24 months with little interference from competition – however it is very difficult to predict technology enhancements in the medium to longer term. The company has 8 patents in place (with a further 8 pending) which

we believe reduces this risk somewhat. While there is currently no competition within China that supply invisible tracers, there are companies based in Europe and the USA that provide these products, thus there is a risk that one (or several) of these companies may elect to compete within the Chinese market. Having said that, we understand that it can take 2-3 years for a company to obtain a CTAAC licence.

Implementation time. YPB’s sales are not as straightforward as many consumer products given the customers are generally required to test the product through their manufacturing process before they place an order. This process can take up to 18 months, which could potentially slow the cash flow generation of the business – as well as being an extremely long and arduous process for customers. Governments can be even longer – especially for security items such as currency and ID cards. One positive from this is that clients are typically quite sticky and thus unlikely to leave once the technology becomes part of the production process.

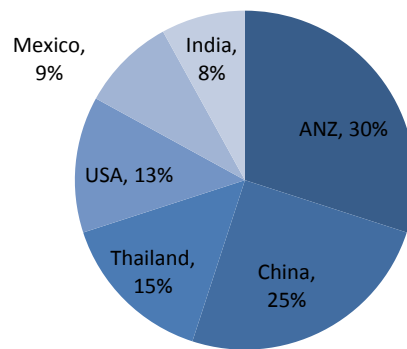
Balance sheet scope remains strained with cash burn historically been much larger than revenue (FY15 revenue of A\$1.6m versus negative free cash flow of –A\$6.0m). We expect this to provide a small headwind to the stock in the short term; however we expect revenue growth to push the company to a net cash position by FY18E, which we believe will strengthen further into the long term. The below chart assumes no dividends paid.



Source: BW estimates, Company Data

Exchange rate remains a risk given the bulk of YPB’s revenues are derived in offshore currencies, thus a stronger Australian Dollar will have a negative impact to YPB’s income. While we do not expect the Australian Dollar to rise materially in the near/medium term, we feel it is still prudent to highlight this risk. As per the below chart, the currency exposure is approximately as follows: A\$ (30%), US\$ (22%), RMB (25%), THB (15%). Costs by geography percentages broadly match revenue by geography percentages. We expect this distribution to change – with a much larger Chinese contribution over the next two years.

Revenue by geography FY16E



Source: Company Data, BW estimates

Company overview and strategy

Who is YPB?

YPB manufacture anti counterfeit technology and sell these products to governments and businesses. It is a global end-to-end anti-counterfeit service provider where it provides protection to company brands through its tracer and scanner technology while also providing brand engagement between the business and customer through its SaaS smartphone applications for consumers. The company listed on the ASX in 2014.

The company's focus is Asia – primarily China – given China is one of the premier producers and suppliers of counterfeit goods globally. Approximately 70% of the counterfeit goods seized in the USA originate in China.

The product

YPB provides protection, detection, and connection services to governments, businesses and consumers through three key products: (1) Tracers, (2) Scanners, and (3) Smartphone technology:

- **Tracer:** YPB sells invisible microscopic tracers which can be embedded into products (or packaging) during the manufacturing process to ensure authenticity. Tracers are non-toxic and also Food and Drug Administration (FDA) compliant meeting US, EU and Sino FDA standards for food contact, meaning they can be used in food packaging. They are made from rare earth elements. The key differentiator of YPB's tracers is that they are invisible and can only be detected by YPB's own scanning technology (the only company with a CTAAC licence to sell invisible tracers within China). YPB will sell the tracers in 'masterbatch' form – which means it will be delivered to the customer in the form of ink, plastic, or fibre where the customer can then incorporate the masterbatch product into its manufacturing process. For example, a company that supplies medicine can elect to have YPB's tracers imbedded within the product's plastic container, cap and label. YPB only supply clients with enough masterbatch product to exactly fulfil the client's requirements (which is monitored) thus there is no masterbatch product left over to be used by counterfeiters.
- **Scanner:** YPB also sells scanning technology to detect the tracers. The scanners are encrypted with technology to detect whether or not the product contains YPB's tracer

material, thus detecting whether or not the product is fake. The scanners are also over moulded during manufacturing meaning if a competitor attempts to reverse engineer the product it will trigger a self-destruct software code. The scanners are used by the customer (or a shop owner) to be able to test the authenticity of the product. Shop owners can use the tracers to make sure the product they have been delivered is authentic. The scanners are not sold to individual consumers and are not a significant contributor to the company's bottom line.

- **Smartphone technology:** YPB is developing a mobile application to allow customers and businesses to read products and identify forgeries. The application will allow users to report false products and also store information on certain items to alert the customer if he/she is running low, or the proximity/price of the nearest outlet in which to purchase the product, and the users of the product will be rewarded for detecting a counterfeit product. We view the smartphone app as an information gathering tool for the company, rather than a direct revenue generator – given the app has no free to download for consumers. We expect YPB will use the information gathered through the app to pass on to organisations for a fee, or use it to better detect and predict fraudulent activity.

Our Products & Customer Applications

Core Technology

YPB INVISIBLE MARKERS (HIDDEN AND COVERT)

Optimized for large scale manufacturers by compounding with universal raw materials and supplied as masterbatch concentrates



Masterbatch Products

fit for purpose ready for production anti-counterfeit raw materials.
Practical, low cost & secure.
Becomes part of the product itself.



INK MASTERBATCHES



POLYMER MASTERBATCHES



TEXTILE MASTERBATCHES

Mobile application & scanner

Consumers & Manufacturers can use mobile & YPB's custom scanner device to detect product authenticity




Source: Company Document

Examples of competitor products include: Radio-Frequency Identification (RFID), Near Field Communication (NFC), holograms, microdots, UV and IR inks, and coded taggants.

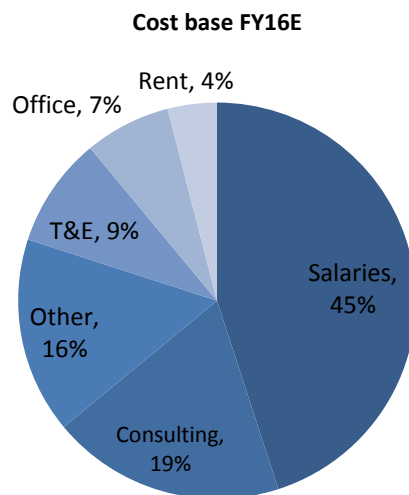
- RFID: Radio-frequency identification use electromagnetic fields to track objects and in some

cases animals. The tag is similar to the size of a grain of rice and is attached to the object and tracked using radio waves. RFID's are often found in automobiles and livestock or pets – and can be used for tracking items along a production assembly line, or to track the movements of animals.

- NFC: Near field communication allows two electronic devices to communicate at close range. Within the anti-counterfeit market this could be an electronic tag attached to a product which can then be read by an electronic device such as a smartphone.
- Holograms: Optical images created by a laser providing different colours and appearances depending on the angle/light the image is viewed. Holograms can often be used on product packages or on banknotes and security cards.
- Microdots: Small discs (can be one millimetre in diameter) which are attached to products and can be embedded with specific logos/names as proof of authentication or proof of ownership. Microdots are commonly used on large items such as automobiles.
- UV and IR inks: Often used in passports and bank notes, UV/IR ink can be invisible to the naked eye, but can show up under certain UV lights.
- Coded taggants: Embedded markers that provide a signal to a specifically designed reader. Taggants are often embedded into a product or package to track or identify that product. We believe coded taggants are the closest anti-counterfeit technology to YPB's invisible tracer technology.

Costs

The cost base is predominantly salaries and consulting fees. YPB's tracers sell at a significant margin, with every additional sale incurring minimal production cost – given it can cost YPB a fraction of a cent to produce a tracer which can could sell for one cent per application (costs/sales prices can vary depending on various factors within the production line – including rare earth prices – and also the complexity of the product YPB is selling to its client). YPB outsource its production of the tracers to third parties – which includes sourcing the rare earth materials the tracer is made from, then manufacturing the tracers from the original rare earth elements. One key reason the company splits the outsourcing of the various parts of the production line is to ensure no individual department or third party has end to end knowledge of how the tracer material is made.



Source: Company Data, BW estimates

Patents

YPB currently has 7 patents within China (3 further patents pending), 1 patent in the USA (a further 3 pending) as well as 2 PCT (Patent Corporation Treaty) patents pending.

Customers

YPB's primary customers are governments and large corporations looking to increase security and/or protect their brand. Governments require significant security measures to reduce the likelihood of currency counterfeit, as well as documentation/security pass copying. Some large corporations have their brands harmed through the counterfeit market – and this can be especially dangerous within the medical/pharmaceutical industry through counterfeit medicines. YPB's tracer material, when applied to the product (or packaging), can confirm authenticity.

Typically, prospective customers will spend months investigating YPB's technology as well as designing a suitable methodology for implementing the product within its manufacturing process. Given the time and effort required to test and implement these products within the company's production process, customers will often sign a long term contract of between 3-5 years.

YPB's target market is China, where it currently derives approximately a quarter of its revenue. We expect this percentage to increase as the company ramps up its client base over the next 18 months. The company recently announced that it has signed a Memorandum of Understanding (MOU) with packaging company Orora. We expect this to provide YPB with a significant revenue platform given the scale of Orora's business (turnover of more than A\$3.5b within the packaging market – primarily beverages, fruit & vegetables, meat and seafood).

Since listing, YPB has announced several contract wins including to HiCap Closures (a large Chinese bottle closure manufacturer), Shanzhen Shensaier (supplies UV printing ink to the tobacco industry in China), Guangzhou Renmin Printing (protecting tax invoices for Guangdong National Tax Bureau), as well as a supply agreement with one of China's national banks. The company also announced it has secured a 3-year contract with a major US footwear brand. We believe further contract announcements will be the key driver of YPB's share price over the next 12 months.

We expect to see significant revenue growth in the company's supply of foil and thread for passports over the next three years. YPB currently supplies its trade marked VariSec™ Foil and MultiSec™ Thread for the use in passports to The United States of America, South Africa and The Philippines. The foil is used on the front of passports, while the thread helps bind the passport pages together. Both the foil and thread contain YPB's tracer material – which YPB claims is impossible to replicate, hence fake passports are easily identifiable. The total global market revenue for passport foil and thread is c.US\$7.5m of which YPB currently has 10-20% share (YPB is targeting 30-40% share within 3 years).

While YPB's customers have typically been governments and businesses attempting to improve security and avoid counterfeiting, we can see this evolving to include many more companies if the company can successfully implement its customer engagement service – through its smartphone app. The app will connect customers with brands, as well as help companies detect where its supply is ending up – and potentially detect fraudulent products.

Within its FY17E guidance announcement YPB provided a list of revenue opportunities for the year. As per below, the company has A\$37.8m of either current clients or advanced revenue opportunities. While only some of these are locked in, we estimate that the company will generate revenues from at least half of them (BW Equities FY17E revenue of A\$21.7m). We believe this is a conservative estimate – especially considering there is an additional A\$22.8m of intermediate opportunities the company is working on (as per the below table).

Existing clients and advanced opportunities				Intermediate opportunities			
Project value	Number of projects	Total value (A\$m pa)	Avg Value/Pjct (A\$m pa)	Project value	Number of projects	Total value (A\$m pa)	Avg Value/Pjct (A\$m pa)
>A\$10m	1	10.0	10.000	A\$2-5m	6	19.0	3.167
A\$2-5m	2	5.5	2.750	A\$1-2m	1	1.3	1.300
A\$1-2m	7	9.2	1.307	A\$0.5-1m	3	1.7	0.557
A\$0.5-1m	8	5.6	0.694	<A\$0.5m	12	0.8	0.069
<A\$0.5m	178	7.5	0.043	Total	22	22.8	
Total	196	37.8					

Source: Company Data

We highlight that although the above list of potential contracts is extremely encouraging, the number that will be converted successfully into a revenue stream (as well as the timing of cash flow) is still unknown. This is why we have taken a conservative approach and assumed A\$21.7m of the A\$37.8m 'existing clients and advanced opportunities' and we have assumed none of the A\$22.8m within the 'intermediate opportunities'.

Prices

YPB do not have a specific selling price for its tracers, however we estimate that the average selling price per tracer application could be c.US1 cent (but could be more or less depending on the size and complexity of the customer order). Typically the tracer material will cost the company a fraction of the price to make, but YPB do not work off a set margin to determine pricing. Prices are generally negotiated on an individual basis depending on the amount of tracer required as well as the complexity/form of the masterbatch YPB supplies to the customer.

Scanners currently sell for c.US\$20-35 per unit, and we estimate they can cost YPB c.US\$10 per item to make. Smartphone technology applications can be downloaded and used by individuals free of charge.

The core revenue generation for the business is through the tracers – where the company receives recurring-sales as the items are used within the manufacturing process of its client's products. The scanners sell at only a small margin, and given the products last several years, there is little additional sales of scanners aside from sales to a new tracer customer (however there are replacements requested from time to time). In our view, the scanners will not drive a significant proportion of the company's long term revenue growth. The smartphone app is free to download, thus we forecast very little direct revenue from this offering in the near term – however we do see scope for the company to convert the intelligence gained from the use of the app to revenue by selling the information/taking commercial agreements with retailers.

Recent acquisitions

The company has made several acquisitions over the years – primarily to enhance its product rather than acquiring similar companies to gain market share. As per the below table, the most significant acquisition was acquiring the company's tracer and scanner IP during the 2010 to 2013 period – which is the bulk of the company's intellectual property today. Since then, the company has made several small acquisitions – the largest being the acquisition of nTouch in 2015.

What	When	Where	Reason	Opportunity	Consideration (A\$)
Tracer and scanner development	2010-2013	China	Valuable, Unreplicable IP	Anti-counterfeit	\$14.85m in shares
Brand Reporter	2014	USA	Software to track counterfeit	Supply chain management & customer interaction	\$171k cash, \$493k shares
Intellectual Product Protection	2015	Thailand	Brand protection consulting, government & blue chip clients	Existing blue chip & government	\$274k cash, \$411k shares
Continuous Forms Control	2015	USA	Print integration expertise, quality customers	US beachhead	\$411k cash, \$411k shares
nTouch	2015	Australia	Customer connect platform	Big Data proximity marketing customer profiling	\$4.5m shares
Affymx	2016	Mexico/USA	JV for Latin America	Beachhead for Latin America and Government sector	\$260k shares

Source: Company Presentation

Board and governance (as per company website and company releases)

YPB's board consists of six members: three independent directors (Gerard Eakin, Ron Langley and George Su), Executive Director (Robert Whitton who is also the CFO and Company Secretary) as well as the CEO (Jens Michel) and the Executive Chairman. John Houston is the Executive Chairman who is also the company's founder and previously was in the position of CEO. **He currently holds c.32% of the company's shares (as well as c.15m options), with the shares escrowed until early August 2016.** Mr Houston has experience primarily as an entrepreneur in many different fields (property management, telecommunications amongst others) in several different countries across Asia Pacific and Europe. Jens Michel is an executive board member – where he is the CEO. Mr Houston handed the CEO role over to Mr Michel in March this year and will continue to be actively involved in the business working alongside Mr Michel.

Senior management (as per company website and company releases)

Jens Michel (Chief Executive Officer)

Mr Michel is the company's CEO, having taken the position during March this year following his appointment as company COO in September 2015. Mr Michel completed a Bachelor of Law degree in Germany after starting his career as a Special Forces detective. His experience since then has been in a variety of senior management roles across ASEAN, ANZ and Europe with a focus on sales, marketing and general management. Mr Michel's two previous roles prior to joining YPB was Pan ASEAN Regional Vice President for a US\$1.7b revenue multinational medical technology business, and also the country head for a CHF5b revenue market expansion services business.

Robert Whitton (CFO, Company Secretary, and Non-Executive Director)

Mr Whitton has over 30 years' experience in corporate re-organisation, strategic planning, financial analysis, and risk management. He currently is Head of Business Recovery at William Buck, Chartered Accountants & Advisers. He has been a non-executive Director of Exalt Resource Limited, Tempo Australia Limited and RKS Consolidated Limited as well as Chairman of each company. Mr Whitton is currently a Director of Australian Wine Consumers Co-Operative Ltd. He is a Chartered Accountant and Certified Fraud Examiner.

Ralph H Davis Jr (President Print Solutions)

Mr Davis has over 40 years' experience in printing and packaging with the bulk of this within the apparel industry. He heads YPB's print solutions in China, South East Asia, Australia and the USA.

Tim Merchant (Chief Technology Officer)

Mr Merchant has 30 years of security industry experience having been employed by the US government for 20 years – beginning his career as a quality control inspector for US Passports. He became principal technical specialist in charge of design specifications for several US security documents.

The industry

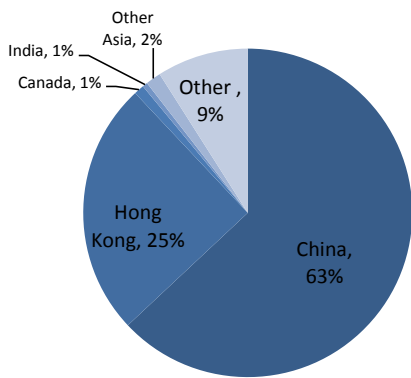
Global counterfeit and pirating statistics are difficult to source, with many different research providers estimating varying numbers on the annual value of global counterfeit and pirating. Given illegal businesses operate outside the law and do not report business information to any governing body, compiling statistics and attempting to gain information on the size of the global counterfeit market is extremely difficult. The International Chamber of Commerce released a study conducted by Frontier Economics which estimates that the upper bound of the global value of counterfeit and piracy could be as much as US\$1.77b per year. This includes domestic production and consumption as well as digitally printed products. International trade accounts for as much as US\$960b of this.

An OECD paper written in November 2009 highlighted that the global counterfeit and pirated goods in international trade (not including domestically produced and consumed products – and also non tangible pirated digital products) could have been up to US\$250b in 2008, which is more than double the level it was in 2001 (source: <http://www.oecd.org/sti/ind/44088872.pdf>). It believes that the percentage of counterfeit and pirated products has represented approximately 1.95% of global trade in 2007 (up from 1.8% in 2000). Frontier Economics updated these estimates believing that the figure back in 2008 could have been between US\$285-360b.

It is difficult to estimate the amount spent annually on anti-counterfeit technology. A recent presentation by YPB indicated it expected annual spend on anti-counterfeit technology to be US\$285b by 2020 (2014 spend c.US\$80m); however this is extremely difficult to forecast. We do agree, however, that there will be significant growth in the short-to-medium term. Many companies within the Asia Pacific region do not have any form of anti-counterfeit technology imbedded within their products/packaging – which is where we see the largest scope for YPB to generate revenue. While we do believe YPB's product is superior to that of several of its competitors, we see the biggest opportunity stemming from those companies without any form of protection. The majority of YPB's recent contract wins are with companies who currently do not currently use any form of anti-counterfeit technology. Given it can cost the producer just US1 cent per product package, we see this as a low cost solution to help companies (1) reduce counterfeit occurrences and thus improve sales, as well as (2) improving its brand via a lack of low quality copies in the market.

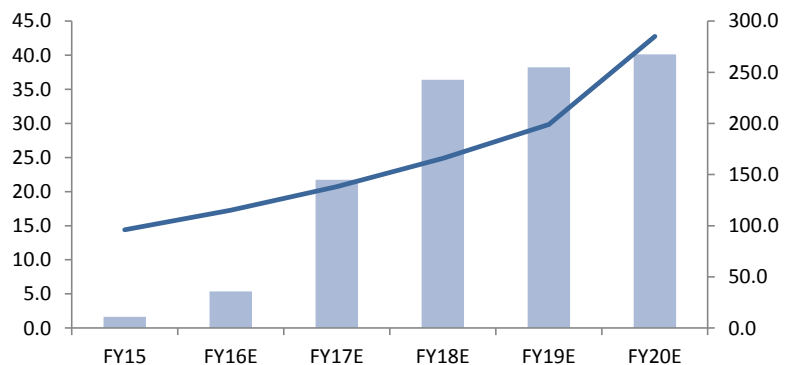
World Customs Organisation figures suggest that almost 70% of the counterfeit goods seized at US borders was originated in China. This is backed up by US Department of Homeland Security figures where 63% of seized goods in 2014 were sourced from China (68% in FY13). This is primarily why YPB has targeted China – it believes the Chinese counterfeit market provides the highest level of growth.

Origin of counterfeit goods seized at US borders



Source: Company Data

YPB revenue, LHS (A\$m)
Spend on anti-counterfeit measures, RHS (US\$m)



Source: YPB presentation data 24 May 2016, BW estimates

Within China, the licences issued for anti-counterfeit technology and services are managed by China Trade Association for Anti-Counterfeiting (CTAAC) which is regulated by The General Administration of Quality Supervision, Inspection and Quarantine. Without a licence, companies cannot legally sell anti-counterfeit technology within the People’s Republic of China. There are 75 companies certified by the CTAAC to sell anti-counterfeit technology in China. There are 15 certified to sell tracers, and YPB is the only company certified to sell invisible tracers.

As it stands, YPB is the only company licenced to sell invisible anti-counterfeit tracers. Other companies with licences with the CTAAC cover anti-counterfeit products such as ink technologies, security paper based products, hologram based products, and anti-counterfeit thread.

Anti-counterfeit technologies typically fall into one of four categories: Overt (visible to the naked eye), hidden (can be seen using items such as an infra-red pen), Covert (micro or infra-red taggants), and forensic (can only be detected using forensic scanner technology). YPB’s technology falls into the forensic category – the only company with a CTAAC licence to sell invisible tracers into China.

Competitive landscape

The anti-counterfeit market is extremely fragmented with many different players offering varying anti-counterfeit solutions. There is no key dominant player, and with advances in technology as well as the increased desire for more companies to protect their brands through using anti-counterfeit products, the competitive landscape is complex.

YPB’s primary competitors sell products called ‘taggants’ which are added to a product to highlights the source of manufacture. This is typically ink based products used in printing applications (currency, passports, labels etc). While YPB also produces ink solutions for companies, it believes these are easy to replicate, and hence there is limited competitive advantage within the market. YPB has taken this a step further by introducing an invisible product which can either be attached to the product themselves, or to the packaging.

While there is currently no competition within China that supply invisible tracers, there are companies based in Europe and the USA that provide these products. This poses a risk to YPB

given any of these companies may decide to compete within the Chinese market.

As it stands, there are 75 companies certified by the CTAAC to sell anti-counterfeit technology in China. There are 15 certified to sell tracers, and just one company (YPB) certified to sell invisible tracers.

We are unable to provide a breakdown of market share per company given there are thousands of companies that sell some form of anti-counterfeit product – many of which are large conglomerates where the anti-counterfeit products are only a fraction of the entire business. We expect the market to continue to grow strongly in the short term and one of the reasons for this is due to many companies not currently using any form of anti-counterfeit technology within their production process. Thus we expect YPB will (and have been) targeting companies not currently using this technology – rather than YPB taking market share off other current players.

The market is extremely diverse, and there are no companies that directly compare to YPB in terms of products and service offerings. We do, however, provide examples below of comparable companies and the services they offer.

Examples of comparative companies include:

Authentix (unlisted)

Authentix is an unlisted USA based anti-counterfeit and brand protection company. The company undertakes a fuel marking program to help increase excise tax collection and protects the fuel supply chain. Authentix also provides brand protection within several other sectors including pharmaceuticals, consumer goods and agrochemicals as well as banknote authentication for governments.

DataDot Technology Ltd (DDT.AX, market cap c.A\$15m)

DataDot produces asset identification technologies. The identification technology involves marking items with a unique code (often the company brand or the particular item's identification number). The metal discs are added to the item via a spray or by brushing the discs onto the asset. The technology can be read with a simple magnifying device. The company targets the automotive, marine, clothing and industrial materials sectors.

OpSec Security (unlisted)

OpSec Security is an unlisted anti-counterfeit company servicing a large number of sectors including pharmaceuticals, consumer goods, automotive and governments (as well as several others). OpSec authenticates products for its customers, tracks products through the supply chain, and provides several other services designed to protect company brands.

Thin Film Electronics ASA (OL:THIN, market cap c.US\$300m)

Thin Film Electronics is a Norwegian based and listed company that provides printed electronics to companies around the world. The company tags and seals products with printed electronics to ensure authenticity. Using a smartphone app consumers can detect if a product has been opened previously as well as its authentication. The app can also provide reminders for usage (for example medical dose reminders).

YPB provided the below diagram within its latest presentation highlighting the functions of each of the above competitors:

	Anti-Counterfeit Print, Packaging & Labelling	IP Solutions and Forensic Services	Customer Engagement	End-to-End IP solution Design	Invisible to the Human Eye
YPB	YES	YES	YES	YES	YES
3M	X	X	X	X	X
Honeywell	X	X	X	X	X
OpSec	YES	X	X	X	X
Thin Film Electronics	X	X	YES	X	X
Authentix	X	X	X	YES	X
Tapit	X	X	YES	X	X
DataDot	X	X	X	X	X

Source: Company Presentation

Barriers to entry

Technology is, in our view, the key barrier to entry. Any new entrant will require a highly sophisticated product to be able to compete with the current players. YPB protects its intellectual property with patents, hence we believe the risks are low that another firm currently supplying into China will create a similar invisible tracer to that of YPB. As it stands, there are no other companies that sell invisible tracers into China. Having said that, there are several companies in the United States that have similar invisible tracer technology, hence one of these firms could move into the Chinese market.

Time is also a barrier as the client base is extremely sticky due to the onerous process from switching from one provider to another. It can take up to 18 months for a company to test and implement a new security technology into its manufacturing process – even longer for highly sensitive governments products. This results in many clients being locked away on 5 year contracts. Given the sticky nature, it is unlikely customers will switch from one brand to another very often.

Financials

Profit & Loss

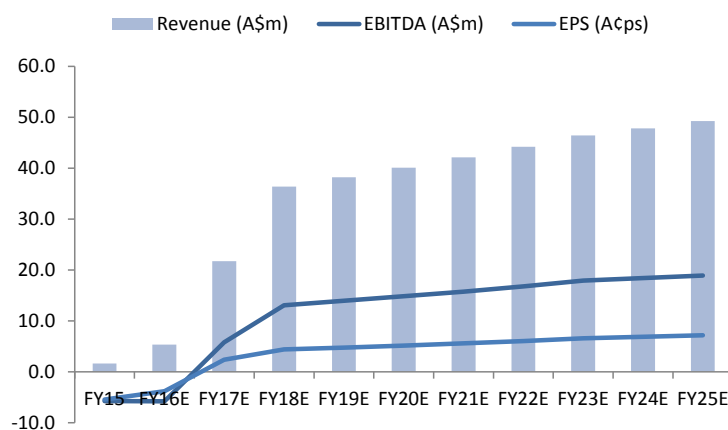
YPB reports to a December year-end. We expect a step change in revenue from FY15 to FY17E with revenue lifting from A\$1.6m to A\$21.7m. The company provided FY17E guidance to the market on 20 May 2016 pointing to profit before tax of A\$5m (BW Equities A\$4.6m). We expect the company to realise a significant lift in revenue and earnings over the next two years driven by new contract wins – including the recently announced Orora deal.

A significant portion of the company's Research & Development is outsourced, which is partly done by design such that no individual party has access to the company's end-to-end research. YPB has long term contracts with all of its third party research providers. Historically YPB has expensed almost all of its outgoing costs – with sustaining capital not included in P/L expenses just A\$300k in FY15.

The company has historically capitalised only a small amount of its costs resulting in a D&A expense under A\$1m per annum. We expect capital spend (primarily on R&D) to increase over the next two years however given the company expenses almost all of this within EBITDA we expect only a minor lift to its D&A expense.

Given the business is extremely scalable, cost variances year-on-year are typically due to movements in sales, marketing and business development. The business is in its infancy with regards to client contracts, therefore we expect marketing and sales expenses to lift materially over the short to medium term in order to build the company's client base.

YPB has incurred a small amount of tax losses over the past two years, and based on this we do not expect the company to incur a P/L tax expense until FY18E.



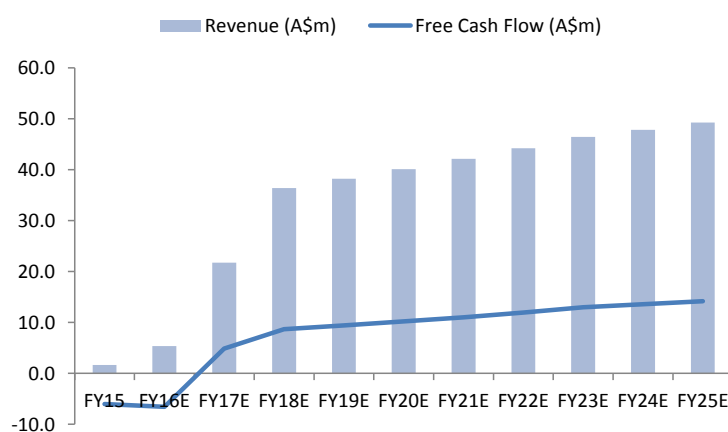
Source: BW estimates, Company Data

Balance Sheet

As at the end of FY15 YPB had a net debt position of A\$0.2m (A\$2.9m cash and A\$3.1m debt). The company has since raised A\$4.5m via a placement (announcement dated 24 May 2016) at A\$0.24 by issuing 18.75m shares. This, we forecast, will see the company with a net cash balance of A\$0.5m at 1H16E (30 June 2016). In our view, cash will remain tight over the next 9 months until the company moves to a free cash flow positive state – which in our view is likely to be early-to-mid FY17E.

Cash Flow

At least in the near-to-medium term, YPB intends to reinvest all revenues back into the company to develop the business further, rather than to pay a dividend to shareholders. We do not expect the company to pay a dividend until at least FY18E when the company is generating sizable positive free cash flow. Having said that, we do not model a dividend at all given the infancy stage the company is in. One of the primary concerns we have with respect to the company's financials is its recent cash-burn. As per the below chart, we expect YPB to generate positive free cash flow in FY17E and for this to escalate further into FY18E.



Source: BW estimates, Company Data

Valuation

We are initiating on YPB with a Buy and a 12 month DCF based price target of A\$0.42. Given we do not forecast the company to be generating steady state earnings by FY17E, we calculate our 12 month price target based on our DCF valuation rather than an earnings or EBITDA multiple.

We provide our valuation below, which uses a Weighted Average Cost of Capital (WACC) of 13.7% - which we believe adequately reflects the risks with this early stage company. Our WACC is calculated using a market risk premium of 7.5%, equity beta of 1.5 and a target debt to capital ratio of 20%, while our post-tax cost of debt is 5.3%. Our long term growth rate for revenue and costs is 3.5%.

Valuation	
Cumulative Present Value of Cash Flows	84.8
Add: Market value of investments	0.0
Add: Cash	4.3
Equity Value	89.1
Number of ordinary shares outstanding	190.8
Intrinsic value per share (pre imputation credits)	\$ 0.47
Value of imputation credits per share	\$ -
Risk adjusted option value	-\$ 0.05
Intrinsic per share valuation	\$ 0.42

Source: BW estimates

Sensitivities

We provide the below sensitivities to the company's DCF valuation. While we are comfortable with our assumptions for the Weighted Average Cost of Capital, revenue and cost projections, we provide the below sensitivity table to indicate the change in our DCF valuation (in A\$ per share) under various WACC assumptions as well as three scenarios for revenue and cost growth.

Scenario 1: Revenue grows to just A\$15m in FY17E and A\$25m in FY18E, with growth at 3-5% thereafter. Cost levels sufficient to deliver pre-tax profit of A\$5m in both FY17E/18E. This delivers FY17E pre-tax profit in line with guidance, but then exhibits no growth in FY18E.

Scenario 2: Base case (current BW Equities estimates of A\$21.7m revenue in FY17E and A\$36.4m in FY18E resulting in PBT of A\$4.6m in FY17E and A\$12.0m in FY18E).

Scenario 3: Revenue of A\$38m in FY17E and A\$50m in FY18E, then growth at 3-5% thereafter. Cost levels deliver pre-tax profit of A\$10m in both FY17E and A\$15m in FY18E. This scenario assumes YPB achieves all of its existing clients and advanced opportunities – and then exhibits c.30% growth into FY18E.

	Weighted Average Cost of Capital						
	9.7%	10.7%	11.7%	12.7%	13.7%	14.7%	15.7%
Scenario 1	\$0.34	\$0.29	\$0.26	\$0.23	\$0.21	\$0.20	\$0.18
Scenario 2	\$0.71	\$0.61	\$0.53	\$0.47	\$0.42	\$0.39	\$0.36
Scenario 3	\$0.87	\$0.75	\$0.65	\$0.58	\$0.52	\$0.48	\$0.44

Source: BW estimates

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