

Fact Sheet

About Rakon

Enabling Global Connectivity

Rakon is a global high technology company and a world leader in its field. We design and manufacture advanced frequency control and timing solutions. Rakon has four manufacturing plants including two joint ventures plants and five research and development centres. Customer support centres are located in 10 offices worldwide.

All communication and location systems require precise electronic ‘heart beats’. Rakon makes advanced clocking solutions. Our products provide extremely accurate electric signals, which are then used to generate precise electrical, radio or optical signals in networks and

systems around the globe. Rakon products enable the accurate and efficient transfer of data, time and frequency, at ever increasing speeds.

Whether it be within wired, wireless and fibre telecommunications networks, navigation devices or satellites in space – Rakon products enable connectivity.

Rakon is proud of its New Zealand heritage; it was founded in Auckland in 1967. It is a public company listed on the New Zealand stock exchange, NZSX, ticker code RAK.

Strategic Focus

Rakon is a global company, optimally focussed on generating shareholder value. Its core focus is on delivering higher margin, technologically advanced products. Rakon has a customer portfolio of global leaders in their respective markets, as a result of our ability to offer disruptive technologies coupled with comprehensive application knowledge. Our focus is on enabling next generation technologies as well as retaining or securing ‘preferred supplier’ status with leading Tier One companies in the telecommunications, global positioning and space & defence markets.

In December 2015 Rakon announced a diversification of its business through its investment with Thinxtra—an Internet of Things (IoT) business. Thinxtra began deploying the network in Australasia in the second quarter of 2016. The business is bringing a network, products, services

and solutions to customers that have Machine-to-Machine (M2M) communication requirements. The investment enables Rakon to leverage future IoT opportunities – through the investment in Thinxtra itself and the business opportunities for Rakon, with its current technology base and ability to develop new products for the IoT market.

In December 2016, it was announced that Taiwanese company Siward Crystal Technology Company Limited will invest in Rakon, taking a 16.6 percent share in the company. The investment completed on 15 February 2017. The investment forms a strategic partnership with a well-established and highly successful crystal manufacturer and gives both companies a broader range of products and alternative channels, into new and existing markets.

Group Financial Results

NZD Millions	HY2017	FY2016	HY2016	FY2015
Revenue	46.0	112.7	58.0	131.4
Underlying EBITDA ¹	0.6	9.0	6.2	15.4
Depreciation and amortisation	2.8	6.6	3.1	7.9
Net profit/(loss) after tax	(5.7)	(1.7)	1.1	3.2
Earnings per share (cents)	(3.0)	0.9	1.7	1.7
Operating cash flow	(0.6)	7.3	5.3	(3.6)
Capital expenditure	1.7	5.5	3.2	5.7
Net debt	19.7	12.6	9.7	13.4
Net debt to equity	26.4%	15.1%	11.2%	16.9%
ROE	-7.6%	-2.07%	1.2%	4.0%

Disclosure of Non-GAAP Financial Information

Rakon has used ‘Underlying EBITDA’ as a measure of non-GAAP financial information in this document and it is defined as:

“Earnings before interest, tax, depreciation, amortisation, impairment, employee share schemes, non-controlling interests, adjustments for associates and joint ventures’ share of interest, tax & depreciation, loss on disposal of assets and other cash and non-cash items.”

Underlying EBITDA is a non-GAAP measure that has not been presented in accordance with GAAP. The Directors present Underlying EBITDA as a useful non-GAAP measure to investors, in order to understand the underlying operating performance of the Group and each operating segment, before the adjustment of specific non-cash charges and before cash impacts relating to the capital structure and tax position. Underlying EBITDA is considered by the Directors to be the closest measure of how each operating segment within the Group is performing. Management uses the non-GAAP measure of Underlying EBITDA internally, to assess the underlying operating performance of the Group and each operating segment.

The use of Underlying EBITDA in this document for the half year of FY2016 and FY2017 has been extracted from unaudited financial statements. The use of Underlying EBITDA in this document for FY2016 has been extracted from audited financial statements.

Company Information

Share Listing

Share price as at 15 February 2017: \$0.215
Shares on issue as at 15 February 2017:
229,055,272
Market capitalisation: \$41,073,000
Financial year: 31 March 2017
Industry sector: Electronic Equipment, Instruments & Components
S&P/NZX All Index
S&P/NZX SmallCap Index
S&P/NZX SciTech Index

Share Registry

Computershare Investor Services Limited
Private Bag 92119
Victoria Street West
Auckland 1142
New Zealand
Tel: +64 9 488 8777
Fax: +64 9 488 8787
enquiry@computershare.co.nz
www.computershare.co.nz

Company Advisers

Auditors: PricewaterhouseCoopers
Principal Lawyers: Bell Gully
Bankers: ASB Bank

Company Information

Rakon Limited
8 Sylvia Park Road, Mt Wellington,
Auckland 1060, New Zealand
Telephone: +64 9 573 5554
Fax: +64 9 573 5559
www.rakon.com

Products and Markets



	Telecommunications	Global Positioning	Space & Defence	Other
MARKET DEFINITION	The equipment which enables communications networks to operate. Includes base stations, microwave transmission, fibre-optics, small cells and network timing.	Includes all Global Navigation Satellite System (GNSS) equipment and other location and positioning systems. Applications include Personal Navigation Devices (PNDs), high precision positioning (surveying, mining, and agriculture), rescue beacons, automotive and sport and recreation products.	Applications where reliability as well as precision and performance are critical. This market also includes aviation and other high reliability applications.	There are many applications including the following: wireless control, test and measurement, smart grids and metering, smart wireless devices, Machine to Machine (M2M) and the Internet of Things (IoT), as well as other new and emerging markets.
PRODUCTS	OCXOs, TCXOs, VCXOs and XOs.	TCXOs, XOs and Crystals	DPCSSs, OCSOs, OCXOs, TCXOs, VCXOs, XOs and Crystals.	OCSOs, OCXOs, TCXOs, VCXOs, XOs and Crystals.
PRINCIPAL MANUFACTURING LOCATIONS	India NZ	NZ	France NZ	France NZ China
RESEARCH AND DEVELOPMENT	France NZ UK	NZ UK	France NZ	France NZ UK
SHARE OF REVENUE HY2017	45%	28%	25%	2%
KEY POINTS FROM HY2017	<ul style="list-style-type: none"> Continued to be impacted by lower infrastructure spend and consolidation in the global industry which led to significant rationalisation. Half year revenue decline continued but now stabilised. We expect the trend of the past couple of years to slowly reverse in the second half of FY2017, based on the orders we are now seeing from Tier One customers and their forecasts. Operators are also starting to roll out time synchronisation now (previously just frequency). Timing is mandatory for emerging 4.5/5G networks. Rakon has existing products designed to meet these requirements, and additional solutions currently in development. 	<ul style="list-style-type: none"> 27% revenue decline on HY2017 due to continued cannibalisation of personal navigation devices by smart phones, and uncharacteristically high revenue in HY2016 generated by a customer 'last time buy'. The market continues to move away from commoditisation towards more specialised products. We expect the current global TCXO shortage, due to the growth in mobile phones, will keep prices stable for the balance of the global positioning market. The introduction of autonomous cars will increase the size of the global positioning market in the future. Development by traditional car manufacturers and technology companies continues apace, and Rakon is currently working on several opportunities with some major players in this area. 	<ul style="list-style-type: none"> Revenue up 2% from HY2016, where an increase in defence was partially offset by a decline in space revenue. Revenue is expected to increase in the second half. Highlights include 16% growth in the emerging low orbit satellites segment and Rakon's qualification into a SpaceX rocket programme. Asia and the US are potential growth areas; opportunities also exist for low orbit nano and micro satellites. Revenue from defence business was up 11% from HY2016, with solid growth in precision radar products and strong order bookings continuing over the past 9 to 12 months. Rakon is the only company supplying commercial OCSOs which enable aeroplane radar to 'see' twice as far as previously. This advanced technology provides strong prospects for growth in the US market. 	<ul style="list-style-type: none"> Rakon is constantly looking for new and emerging markets that utilise its value added technology. New and emerging markets offer key opportunities and are a hotbed for Rakon's new products and technology. The IoT is a rapidly growing market with opportunities for end point/node/IoT module timing requirements. Rakon has invested AU\$5.8 million to date in Thinxtra – the exclusive Sigfox network operator for Australia, NZ and Hong Kong and is a major shareholder. Thinxtra's focus is on the network and customer solutions. More than 60% of the population in Australia and NZ have outdoor coverage and the company is on target to achieve 85% population coverage by June 2017. Rakon is leveraging this relationship by developing timing solutions for the IoT.

Strategy and Vision

Our Vision	To be the preferred ‘frequency control product’ supplier to the telecommunications, global positioning and space & defence markets with best-in-class application knowledge.						
Strategic Focus	Focus on Markets for Growth & Profitability			Technology Development		Operational Excellence	
	Telecom.	Global Positioning	Space & Defence	Products / Applications	R&D	Operating Platforms / Efficiency	People
FY2017 Strategic Priorities	<ul style="list-style-type: none"> Growth from 4G/LTE global deployments. Leverage the current strength in customer base and design-in activities. Capture market share through technology transitions – small cells. 	<ul style="list-style-type: none"> Maintain strong market share through superior product performance. Shift in focus to specialised applications <ul style="list-style-type: none"> Agriculture Mining Asset tracking. 	<ul style="list-style-type: none"> Develop a global market position by expanding beyond well established European markets. Leverage new product and platform developments. 	<ul style="list-style-type: none"> Develop application specific technology solutions and next generation products. Development of products for future emerging markets. 	<ul style="list-style-type: none"> Focus on delivering the technology roadmap. Continue the development of disruptive technologies. Build on best practice ‘select-to-launch’ process. Leverage strength of site specific experience & expertise. 	<ul style="list-style-type: none"> Further streamline the integration of manufacturing transferred to NZ. Focus on speed. Standardise Rakon global quality systems to ensure best in class quality. 	<ul style="list-style-type: none"> Ongoing global effort and accountability to deliver the strategic plan. Upgrading HRIS for integration of people with strategy.
Overarching Objective	We will focus on shareholder value creation and our objective is to achieve an overall ROE > 12%.						

Governance

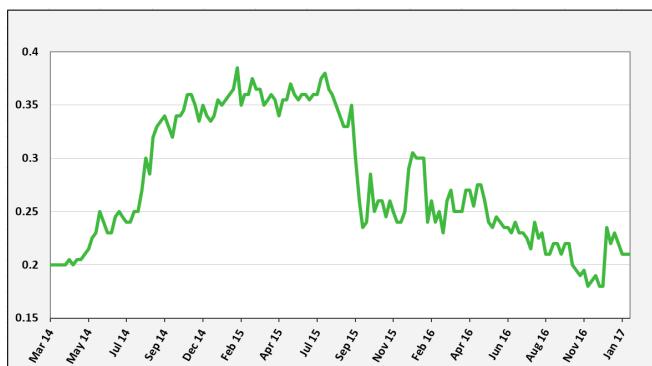
Bryan Mogridge – Independent Chairman

Appointed Chairman in 2005. Bryan has been a public company Director since 1984. Formerly CEO of Corporate Investments and Montana Wines. Current directorships: Lantern Hotel Group PTY Limited (Chairman), Pyne Gould Corporation Limited (Chairman), BUPA Australia PTY Limited (Director), Mainfreight (Director) and Adherium (NZ) Limited (Director). Bryan is also Chairman of the Starship Foundation.

Board of Directors

Bryan Mogridge (Independent Chairman), Brent Robinson (Executive Director), Bruce Irvine (Independent Director), Sir Peter Maire, KNZM (Non-Executive Director) and Warren Robinson (Non-Executive Director and Founder).

Rakon Share Price



Source: Yahoo! New Zealand Business and Finance.
Shows daily close price.

Dividend Policy

Rakon maintains a dividend policy such that it will pay a dividend of up to 50% of the after tax profit, if considered fiscally appropriate.

Leadership

Brent Robinson – Executive Director (Managing Director and CEO)

Appointed to the Board in 2005. 37 years at Rakon which includes establishing a global business. 30 years as Managing Director/CEO. Under Brent’s leadership Rakon has grown into a global and diversified business with revenues increasing from NZ\$1 million to over NZ\$100 million. Brent also acts as Rakon’s Chief Technology Officer, driving the business’s technology and innovation. Awarded the New Zealand Hi-Tech Trust – Flying Kiwi Award in 2011.

Simon Bosley CA – Chief Financial Officer and Company Secretary

Simon joined Rakon in November 2012 and was appointed as Chief Financial Officer in February 2013. Simon has had a lead role in the structural changes undertaken by Rakon in FY2014 and FY2015. In his current role he is responsible for Rakon’s finance, information systems and investor relations functions. Simon is also Rakon’s Company Secretary. He previously spent ten years with Sony in executive management positions in New Zealand and Australia. Simon is a member of Chartered Accountants Australia and New Zealand (CAANZ).

Group Executive

Brent Robinson (Managing Director/CEO), Simon Bosley (Chief Financial Officer), Darren Robinson (Sales and Marketing Director), Dr. Sinan Altug (Managing Director, Europe), Margo Thomas (General Manager – People & Capability), Scott Stemer (Global Quality Manager).

Financial Calendar

Date	Event
19 May 2017	Preliminary FY2017 results
15 September 2017	Annual Shareholders' Meeting
16 November 2017	Preliminary HY2018 results
14 December 2017	FY2018 Interim Report

Glossary



Crystal (Xtal)

At the heart of XOs, VCXOs, TCXOs and OCXOs are quartz crystals. They are used in various data communication applications.



Crystal Oscillator (XO)

An XO is a quartz crystal combined with basic oscillation circuitry. XOs can offer high frequencies with low noise performance. They are typically used in telecommunications networks and other communications applications.



Digital Pulse Compression Sub-System (DPCSS)

A DPCSS is fully programmable and is used to upgrade an existing radar and to extend its life. DPCSSs have high speed digital processing capability, enabling remarkable increases in the overall system performance of radars.



Oven Controlled Crystal Oscillator (OCXO)

Crystal oscillators where the internal temperature is kept constant, using a miniature oven. They're used in space and telecommunications applications where precision is paramount. Stabilities can be better than 1 part per billion (ppb).



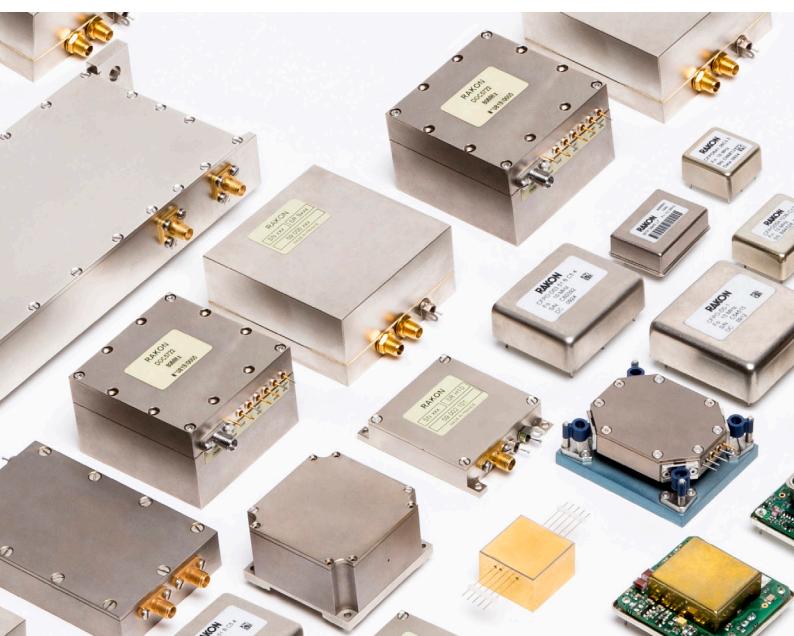
Oven Controlled SAW Oscillator (OCSO)

An OCSO is an oven controlled oscillator using Surface Acoustic Wave (SAW) technology. SAW technology enables high frequency outputs (320 MHz up to 2 GHz) and ultra low phase noise performance. They are commonly used in test and measurement equipment, high speed converters, radar systems and other precise communication applications.



Temperature Compensated Crystal Oscillator (TCXO)

A TCXO is a quartz crystal combined with electronic circuitry. The circuitry is used to generate a stable frequency output, and to remove frequency variations due to temperature change.



Highlights

Innovating Since 1967

A proud history of delivering industry 'firsts' including: miniature GNSS TCXO, stratum 3 TCXO, high g-shock TCXO and lowest g-sensitivity Surface Mount Device (SMD) TCXO, emergency beacon TCXO, Long Term Evolution (LTE) small cell TCXO, Application Specific Integrated Circuit (ASIC) based OCXO, high stability OCXO, ultra low phase noise OCSO and DPCSS for radars.

In-House ASIC and Test Equipment Teams

– Key Differentiator

◀ Rakon designs its own oscillator ASICs and develops its own production test equipment. This is a unique capability in the Frequency Control Product (FCP) domain – enabling next generation technologies.

High Performance and Competitive Pricing

Five Rakon R&D centres worldwide with a 50+ year

◀ history. Rakon's experience and in-depth knowledge of system requirements, enables the development of innovative solutions, tailored to suit its customers' ecosystems. Manufacturing operations in India and China deliver competitiveness.

Winner of Prestigious Industry Awards

Awards include the coveted Queen's Award for Enterprise

◀ – International Trade, New Zealand's 'Hi-Tech Company of the Year' and 'Hi-Tech Company of the Decade', 'Supreme Award' and 'Hi-Tech Exporter of the Year Award' as well as a number of supplier awards.



Voltage Controlled Crystal Oscillator (VCXO)

A VCXO is an oscillator that, by varying a control voltage, has its oscillation frequency adjusted. Commonly used in communications infrastructure, VCXOs can offer much higher frequencies and very low phase noise performance.

Rakon has a full suite of timing and frequency control products. Rakon products are embedded in all parts of the communication network, end to end.

