



EOS Completes Acquisition of Satellite Communications Business

Canberra, 28 May 2020

Electro Optic Systems Holdings Limited (“EOS” or “Company”) (ASX: EOS) has completed the acquisition of the satellite communications business of Audacy Corporation as well as two technical initiatives in the expansion of its Communication Systems business.

Acquisition Completion

On 28 January 2020, EOS announced it had entered into transaction agreements to acquire all of the business and assets of Audacy Corporation, a US satellite communications company (“Acquisition”).

The Acquisition was subject to commercial conditions as well as two separate approvals by agencies of the US Government:

1. The transfer of communication spectrum licenses from Audacy Corporation to EOS was subject to review and approval by the US Federal Communications Commission (“FCC”).
2. The acquisition of a business operating multiple satellites in space is subject to review and approval by the US Committee on Foreign Investment in the US (“CFIUS”).

The FCC and CFIUS reviews have been completed by those agencies and all necessary US Government approvals for completion of the Acquisition have been formally received by EOS. All commercial conditions for closing have been met.

The Acquisition was completed on 28 May 2020. EOS will now move forward to deploy communication satellites in a constellation which EOS has named EOSLink.

The EOS strategic approach to space communications is based on the widely-held industry view that optical communications, where EOS has very advanced technology and strong capabilities, will carry the majority of space communication traffic by 2036. This traffic is then expected to be around 100 times the volume of today, but will generate revenues for service providers at only the same level as today. For the market segment EOS intends to service, which excludes broadcast and internet applications, this revenue currently exceeds AU\$100 billion annually. EOS intends to address a niche in this segment.

Market demand for aggressive improvements in price-performance is severely disrupting an industry facing the capacity limits of current radio frequency (“RF”) technology. There are mounting corporate casualties of the trend toward higher capacity at a lower delivered cost. This rationalisation of the industry is likely to continue for some time.

EOS has chosen to enter this disrupted market now, by acquisition, to become a full service space communications provider.

A full space communications capability must include both ground and space segments:

- **Ground Segment.** The EOS acquisition (October 2019) of EM Solutions established EOS as the premier global provider of stabilised on-the-move satellite tracking terminals for wideband communications. A key advantage of EM Solutions’ satellite terminals is their compatibility across multiple constellations and their accelerating global success establishes a user community compatible with future EOS satellites.
- **Space Segment.** The EOS acquisition (January 2020) of the business of Audacy Corporation, now completed, allows EOS to address near-term market needs with RF satellites operating under the acquired FCC licenses, and migrate those and other customers to hybrid or optical satellites in the future.

The EOSLink business model seeks to address a market segment comprising government and commercial customers who collectively require a tenfold increase in capacity over the next eight years to 2028, linked to a tenfold reduction in the market price per unit of capacity with higher reliability and lower latency than available from current infrastructure. The same x10 increment of improvement is again required over the following eight years to 2036. This evolution of the market is driven by new technology, new data-intense applications, expanding end-user numbers, and fundamental commercial limits on all customers’ ability to pay.

The planned EOSLink satellites will offer a leap-ahead to the capacity and cost metrics required by the market from their initial operational date, currently expected to be in 2024, and address new market segments which cannot be otherwise serviced cost-effectively.

EOS is now finalising the design of its initial constellation of satellites to meet these requirements. The EOSLink satellites will not compete with existing geostationary (“GEO”) satellites, nor will they compete with the very large number of low earth orbit (“LEO”) satellites expected to enter service over the next few years. Both of these market segments are expected to look to EOSLink satellites to provide data transfer operations to increase their own capacity and competitiveness.

EOS has estimated the establishment cost over four years (2021-2024) of EOSLink at around AU\$1.2 billion, with approximately AU\$0.9 billion associated with capital outlays which need only be met from 2024 because attractive finance terms are available for these assets. EOS has engaged with potential customers and partners to contribute resources to further reduce EOS’ outlays over the four-year establishment period.

EOS expects its optical communication technologies will deliver vast improvements in global communication capacity over the next decade and beyond. EOS has previously emphasised the need for the development of a transitional layer of communications technology to bridge the gap between the current RF technology and those optical communication technologies. To augment EOS' own development efforts for this transitional, or hybrid technology, the company has invested in two major collaborations for communications technology with the Commonwealth Government sector and the university research sector.

Technical Initiative: Cooperative Research Centre (“CRC”)

EOS has a strong history of multi-lateral collaboration through Commonwealth-funded CRCs. For example from 2015-2020 EOS contributed over \$20 million to the CRC for Space Environment Management. This contribution led to research outcomes which transformed the space domain awareness and astrodynamics capabilities of EOS over the past five years to a capability aligned with global best practice, leading directly to new commercial opportunities. A collaboration between EOS and the newly-formed SmartSat CRC holds similar promise for EOS communications capabilities.

The SmartSat CRC commenced in February 2020. With funding of \$245 million and involving over 100 research organisations, it is the biggest space industry research-and-development (“R&D”) collaboration in Australia’s history. Two EOS subsidiaries, EOS Space Systems (“EOS SS”) and EM Solutions, are founding corporate members.

EOS SS and EM Solutions have signed agreements with the SmartSat CRC for the development of a new hybrid communications terminal (incorporating both optical and RF capabilities) for military satellite communications.

The collaborative agreements with the SmartSat CRC cement a relationship between EOS and research organisations including the Defence Science and Technology (“DST”) group of the Department of Defence, to develop the new communication terminal over a period of several years. The project participants include the SmartSat CRC, EOS SS, EM Solutions, Australian National University, Shoal Group, Young & Kot Engineering, University South Australia and DST.

Current high data rate communications to and from satellite ground terminals such as the EM Solutions Cobra terminal utilise available RF spectrum which is becoming a highly contested and scarce resource given the ever-growing demand for services.

Optical communications has the potential to overcome these limitations but must meet military reliability and survivability requirements. In addition, there is the significant issue of existing RF infrastructure being incompatible with the infrastructure required for optical communications. The proposed new communication terminal will combine both RF and optical technologies in a single system to overcome such limitations and offer higher data rates than existing terminals.



Cobra Stabilised Satellite Communications Terminal

Technical Initiative: University Sector

In a parallel development reinforcing EOS' long term commitment to collaborative innovation, EOS has committed over \$750,000 towards establishing a permanent *EOS Professorial Chair in Microwave and Photonic Engineering and Applied Electromagnetics* at the University of Queensland. The Chair will establish a world-leading research and teaching group in areas closely aligned to emerging societal requirements in communications. EOS expects to collaborate closely with the post-graduate programs of this new university research group in various hybrid communication research programs.

Group CEO of EOS, Dr Ben Greene, said:

“The early approvals from both FCC and CFIUS in relation to the Acquisition allow EOS to move quickly to the deployment phase of the first EOSLink constellation, comprising four satellites. The size, capability and cost of these satellites has been scaled to meet the requirements of initial customers. Over the next six months we will complete the satellite design sufficient to allow the award of build and launch contracts by early in 2021.

A key factor in EOS undertaking the EOSLink development is that most of the expected customers (by revenue) for EOSLink are existing EOS customers.

We note the current commercial stresses in the space communication industry, especially in the LEO and mature-satellite GEO segments. We see no indication that this will impact the mid-earth orbit (“MEO”) segment where EOS will operate its satellites. Compared with LEO and GEO constellations, the MEO location offers unique operational advantages not previously exploited, as well as the superior resilience and continuous coverage required by EOS’ target customer segment.

One verification of the EOS business model for space communications is the support from all quarters for the technology road map which underpins it. In particular, our customers and many competent research entities share the EOS belief that global communications will transition from RF to optical technology through a hybrid phase.

The research initiatives with the SmartSat CRC and the University of Queensland are expected to support EOS future growth in the same way that EOS research investments of the past decade are driving high growth in EOS today. They emphasise an EOS commitment to responsive and innovative technological solutions to market demand.

Similarly, by founding a new Chair at the University of Queensland, EOS reinforces its commitment to leverage Australian university research to develop world leading technologists and products. We are also excited to initiate the teaching of courses that will cover emerging applications of microwave and optics engineering in space and broadband satellite communications, and to support postgraduate research into active microwave and photonic engineering.

EOS has advanced laser, optical tracking, microwave and RF communication technologies, and our RWS and Cobra stabilised platform products are progressively dominating their respective market segments globally. The new CRC and university applied research collaborations are also focused on developing a more coherent ecosystem of EOS technology solutions, allowing EOS to address a broader market and to lower barriers to entry we have identified in new markets.”

This announcement has been authorised for release to the ASX by Dr Ben Greene, Director.

Further information:

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ABOUT ELECTRO OPTIC SYSTEMS (ASX: EOS; OTC: EOPSY)

EOS operates in three sectors: Defence, Space and Communications

- EOS Defence Systems specialises in technology for weapon systems optimisation and integration, as well as ISR (Intelligence, Surveillance and Reconnaissance) for land warfare. Its key products are next-generation vehicle turrets and remote weapon systems.
- EOS Space Systems specialises in applying EOS-developed optical sensors to detect, track, classify and characterise objects in space. This information has both military and commercial applications, including managing space assets to avoid collisions with space debris, missile defence and space control.
- EOS Communication Systems provides global satellite communications services and systems. It specialises in innovative optical, microwave and on-the-move radio and satellite products that help to deliver high speed, resilient and assured telecommunications anywhere in the world.

This announcement contains certain "forward-looking statements" including statements regarding EOS' intent, belief or current expectations with respect to EOS' business and operations, market conditions, results of operations, financial condition, and risk management practices. The words "likely", "expect", "aim", "should", "could", "may", "anticipate", "predict", "believe", "plan" and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance on, future earnings, financial position and performance, establishment costs and capital requirements are also forward-looking statements. Forward-looking statements in this announcement include statements regarding EOSLink's establishment costs, capital requirements and revenues. Forward-looking statements including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. This announcement contains such statements that are subject to risk factors associated with an investment in EOS. Forward-looking statements involve known and unknown risks, uncertainties and assumptions and other important factors that could cause the actual results, performances or achievements of EOS to be materially different from future results, performances or achievements expressed or implied by such statements. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this announcement