

Ministerial Submission

MS25-001652

FOR ACTION – Response to European Organisation for Astronomical Research in the Southern Hemisphere (Xavier Barcons)

TO: Minister for Industry and Innovation; Minister for Science

CC: Assistant Minister for Science, Technology and the Digital Economy

TIMING

Important: by 8 December 2025 (VIP response).

Recommendation

That you **sign** the letter of response to ESO Director General Professor Xavier Barcons ([Attachment A](#)) informing him that you will provide a decision in the new year on Australia's consideration of ESO membership. The department will provide further briefing to inform your decision in January 2026.

Signed / Not signed

Signature	Date: / /2025
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KEY POINTS

- ESO Director General Professor Xavier Barcons wrote to you on 29 October 2025 as the Minister for Science. He asked you to consider formal negotiations for Australia to sign up to the European Southern Observatory (ESO) treaty after the current Strategic Partnership ends in mid-2027, citing that a decision will be needed in early 2026 to allow time for potential treaty negotiations.
- The department has been analysing the ESO proposal (benefits, costs and trade-offs), consulting ESO and the Australian astronomy community, and is developing advice. A decision brief with this information will be provided to you in January 2026, to support your decision.

BACKGROUND

- The ESO is an intergovernmental research organisation for ground-based astronomy, made up of 16 member states. It builds and operates advanced telescopes in the Southern Hemisphere (primarily Chile) to enable astronomers to study the universe.

- Australia commenced a 10-year Strategic Partnership with the ESO in 2017-18 for a cost of \$129.2 million. It was established to allow Australia to test the benefits of the ESO before deciding whether to commit to full membership.
- ESO membership is expected to cost approximately \$580 million over the first ten years. The department is analysing the costs, benefits and trade-offs, as well as considering the current fiscal environment, and the government's broader strategic priorities for science infrastructure.

SENSITIVITIES

- The Australian astronomy community are well coordinated and vocal about their support for ESO membership. It was the highest priority recommendation in their recent *Astronomy Decadal Plan 2026-2035*.
- We expect some Australian astronomy stakeholders will contact you over coming months regarding this decision.

Clearance Officer

Jo Fielding

A/General Manager

International Science and Investment Branch

Mob: s 22(1)(a)(ii)

Clearance Date: 27/11/2025

Contact Officer

s 22(1)(a)(ii)

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Ph: s 22(1)(a)(ii)

ATTACHMENTS

Attachment A: Response letter



**SENATOR THE HON TIM AYRES
MINISTER FOR INDUSTRY AND INNOVATION
MINISTER FOR SCIENCE**

MC25-002951

Prof. Xavier Barcons
ESO Director General
European Southern Observatory Headquarters
Karl-Schwarzschild-Strasse 2
85748 Garching bei Munchen

Dear Professor Barcons,

Thank you for your letter of 29 October 2025 regarding the European Southern Observatory (ESO) and Australia's Strategic Partnership with ESO.

I recognise the strong astronomy capabilities and collaborative opportunities the Strategic Partnership has provided to the Australian astronomy community. This partnership has also allowed Australian astronomers, who are amongst the best in the world, to contribute to global astronomy research efforts.

I appreciate the information you provided in your letter, and your collaboration with my department. I understand the timeframes you have outlined, particularly regarding the end of the current Strategic Partnership and the process required for treaty negotiation. I will keep these in mind as I consider a path forward for Australia's future engagement with ESO.

I will write to you again early in 2026. Thank you again for your letter.

Yours sincerely

TIM AYRES
/ /2025

Australian Government
**Department of Industry,
 Science and Resources**

Ministerial Submission

MS25-001539

FOR ACTION – Decision on whether to join the European Southern Observatory (ESO) Treaty

TO: Minister for Industry and Innovation; Minister for Science

CC: Assistant Minister for Science, Technology and the Digital Economy

TIMING

s 47C

Recommendations

That you:

- **Note** the letter from ESO Director General Prof Xavier Barcons ([Attachment A](#)) proposing the establishment of formal exploratory contacts on Australian membership to the ESO.

Noted / Please discuss

- **Note** the department's analysis of options for engagement with the ESO, as outlined in [Attachment B](#) and summarised in this brief.

Noted / Please discuss

- **Agree** not to pursue ESO membership, with Australia to complete the remaining term of the current Strategic Partnership (ceases in mid-2027).

Agreed / Not Agreed / Please discuss

- **Sign** the letter ([Attachment C](#)) advising ESO of your decision not to pursue membership.

s 47C

Signed / Not signed

- **Note** the department will work with your office to advise key Australian astronomy stakeholders of your decision prior to your letter being sent to ESO.

Noted / Please discuss

Signature

Date: / /2026

KEY POINTS

- This brief asks you to decide on the future of Australia's involvement with the ESO and recommends not pursuing membership due to s 47C
 - The decision will inform a response to the letter from the ESO Director General, Xavier Barcons (refer **MC25-002951** and Attachment A).
 - A decision is being sought now because the current Strategic Partnership with the ESO ends mid-2027 and it would take around 2 years to complete exploratory talks and formal negotiations to have a treaty in place.
- The ESO is an intergovernmental research organisation for ground-based optical astronomy, made up of 16 Member States. It builds and operates advanced telescopes in the Southern Hemisphere (primarily Chile) to enable astronomers to study the universe. ESO's Extremely Large Telescope will be the world's largest optical telescope when it begins operating in 2030.
- Lead researcher access to ESO facilities is limited to Member States. Individual research organisations cannot purchase time on the facilities. This means Australian astronomers can only lead research projects on ESO facilities if Australia is part of the ESO treaty.
- Australia's current Strategic Partnership with the ESO was intended as an opportunity to test the benefits before deciding whether to commit to full membership. A partnership of this nature has not been undertaken with any other country, s 47C
- Astronomy infrastructure is expensive to build and involves specialist knowledge and skills. Access is most effectively achieved through international partnerships. s 47C

ESO membership

would also provide contract opportunities for Australian organisations in high-precision astronomy instrumentation and infrastructure.

- s 47C
 - A 2024 ACIL Allen evaluation estimated the ESO Strategic Partnership has yielded benefits at around 1:1. While this likely underestimates the full benefit of Australia's involvement in the Strategic Partnership (including broader socio-economic impacts and innovations arising from research), full membership would benefit a narrower group of Australians compared to broader science investments. Full membership would cost approximately \$580 million over the first 10 years (our analysis of the benefits is in Attachment B). However, the expected return on investment, while at least neutral with a reasonable chance for net positive returns (Holden. R, 2025), is probably much lower than alternative science investments. For example, association to Horizon Europe could generate returns of 11:1 by 2045.
 - s 47C

s 47C

- Australia is already a member of an international treaty to advance astronomy – the SKA. The Government has committed over \$1 billion to secure the SKA-Low telescope site in Western Australia and membership of the SKA Observatory. While the SKA is a radio telescope, and the ESO manages optical telescopes, justifying another large investment in astronomy against other priorities for the science sector is difficult.
- Not pursuing ESO membership would cease access to ESO facilities for Australian astronomers at the end of the Strategic Partnership (mid-2027). s 47C

We would

need to manage communication of this decision to Australian and international stakeholders.

Options for the future of Australia's involvement with the ESO

Detailed analysis of options is at Attachment B.

Option 1: Do not pursue ESO membership and complete the remaining term of the current Strategic Partnership (mid-2027) - Recommended

- Australia would end its current arrangement with the ESO upon the expiry of the Strategic Partnership in mid-2027. Current Commonwealth Government funding, allocated under the Access to World leading Astronomy Infrastructure budget Measure, ceases in 2027–28 when the current Strategic Partnership concludes. No new funding would be provided.
- *Impact on access to facilities and talent:* Australia would lose direct access to ESO facilities in late 2027, s 47C

- s 47C

- s 47C

A handling strategy would

be prepared to support engagement.

- s 47C

Option 2: Explore an extension of the Strategic Partnership as an alternative to ESO membership

- This would allow the Government more time to consider broader strategic issues for science investment (e.g. its response to the Strategic Examination of Research and Development and approach to Horizon Europe) before making a final decision about ESO membership. However, it would require new funding for 2 years and would only be worth pursuing if there is a realistic prospect of membership (same costs as Option 3) beyond the extension.
- *Cost:* extension fees would be comparable to current rates (approximately \$33 million over 2 years). s 47C

- s 47C

- s 47C

Option 3: Pursue ESO membership through a treaty-level agreement

- This would allow Australian astronomers to access the full range of ESO facilities in perpetuity and contract opportunities to support astronomy infrastructure. Australia would retain or increase its international position in astronomy research, attracting highly skilled scientists and engineers. Astronomy leads to cutting-edge advances in data processing, imaging, precision timing, and remote sensing, which are important in fields like healthcare, telecommunications, finance, and climate, leading to flow-on benefits to the innovation ecosystem. However, it requires a high level of funding that would reduce the Government's capacity to support other science investments with a higher potential return on investment.
- *Cost:* s 47C s 47C

ESO membership would cost approximately \$580 million over the first 10 years. This equates to approximately \$55 million per year (indexed) for the first 10 calendar years, and approximately \$40 million per year thereafter.

- ESO has offered a \$40 million discount to our joining fee (already applied in our calculations) if Australia joins before the end of the current Strategic Partnership.
- Up to 25 per cent of the joining fee (\$62 million) can be provided through in-kind contributions, including the opportunity for Australian universities to work on major ESO projects (at their own expense) that would normally be awarded by contract through a competitive process. s 47C

- Enhanced reputation: Australia's reputation as a leading astronomy nation would be enhanced. ACIL Allen's 2023 evaluation found the ESO strategic partnership had increased Australia's international competitiveness and retained world-leading astronomy and instrumentation expertise. With ESO membership, our optical astronomers could expand their leadership in cutting-edge science on the world's most advanced ground-based telescope, leading to publication of papers and citations. Australia's role in ESO governance bodies would allow us to shape the world's most important optical astronomy observatory.

BACKGROUND

- Australia is currently the third leading nation in the world for astronomy research, which is estimated to contribute \$330 million annually to our economy (Holden. R, 2025). This value is underpinned by world-class instrumentation and a multi-disciplinary workforce spanning engineering, software, and data science.
- The Government has invested over \$1 billion in astronomy infrastructure since 2007, including the SKA Project, the Anglo-Australian Telescope, and \$110 million for the ESO Strategic Partnership (2017–18 to 2025–26).
- The astronomy community states that it needs access to an appropriate suite of both optical and radio astronomy infrastructure to maintain Australia's international position. Radio astronomy infrastructure has been secured through our membership in the SKA Organisation. Optical astronomers are also seeking access to facilities through ESO membership.
- The broader impact of astronomy research occurs through the knowledge advances and innovations it produces (for example, Wi-Fi), and the broader education and workforce skills it supports (through STEM education and cross-sector employment in data and digital technology, robotics, and satellite communications).

SENSITIVITIES & HANDLING

- s 47C

- s 47C

- s 47C

DATA REFERENCED

- Holden, R. (2025, March). *The economics of government investment in basic science: Astronomy, a case study*. UNSW Business School.
- European Commission (2025, April). *Horizon Europe at Midterm*. European Union.

CONSULTATION

- DISR Budget Policy, DISR Legal, Department of the Prime Minister and Cabinet, Department of Finance, Department of Foreign Affairs and Trade, and external astronomy community through the ESO Coordinating Group (chaired by the department).

Clearance Officer

Jo Fielding

A/General Manager, International Science & Investment Branch

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Clearance Date: 13 January 2026

Contact Officer

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ATTACHMENTS

Attachment A: Letter from ESO Director General
Attachment B: Analysis of ESO Options
Attachment C: Response letter for Option 1 – Do not pursue ESO membership
s 47C



Garching, 29 October 2025

ODG084-25/isk

Senator the Honourable Minister Tim Ayres
Minister for Industry and Innovation and Minister for Science
Australian Government

Dear Minister Ayres

It gives me special pleasure to address you in my capacity as Director General of the European Organisation for Astronomical Research in the Southern Hemisphere (ESO). With more than 63 years of successful history, ESO is the world-leading Intergovernmental Organisation in ground-based astronomical facilities. With a mission of designing, building and operating world-class observatories on the ground and fostering cooperation for astronomy, ESO has a broad portfolio of astronomical observatories which encompasses most advanced telescopes and instruments in the Chilean Atacama desert, developed over the decades at our Headquarters in Garching near Munich (Germany).

We are currently operating the multi-site La Silla Paranal Observatory (LPO), which among other elements features the Very Large Telescope (VLT) – a system which includes 4 telescope units with 8-metre diameter primary mirrors; the unique VLT Interferometer (VLTI) which combines light from these or smaller telescopes delivering unparalleled spatial resolution data, as well as two 3.5 metre-class facility telescopes at the La Silla site. Additionally, together with our international partners in North America and in East Asia, ESO constructed and operates the most powerful and world-unique ALMA sub-millimeter radiotelescope interferometer. Looking at the cold Universe and studying molecular gas and dust, ALMA complements other facilities even in the radio domain like SKA-low which targets instead the dark ages of the Universe and radiation from energetic environments.

ESO is currently building the largest optical-infrared telescope ever conceived, called the ELT (Extremely Large Telescope). With a primary mirror of 39.3 metres in diameter, its construction is over 70% complete and due to conduct first science in 2031. Complementing this, ESO is part of the Cherenkov Telescope Array Observatory, and will host and operate the South array of this world-largest Very High-Energy gamma-ray observatory on the ground.

ESO's operating observatories La Silla Paranal and ALMA are among the world's most scientifically productive astronomical facilities, either on the ground or in space. As part of our mission to foster cooperation in astronomy, and to avoid duplication of effort while enabling scientific synergies, ESO has valuable cooperation agreements with the European Space Agency (ESA) and with the Square Kilometer Array Observatory (SKAO), to which as you know Australia plays a critical role as Member State and host of SKA-Low.

Page1/3



ESO has grown since its birth in 1962 from 5 to its current 16 Member States. In 2017, ESO and Australia agreed a 10-year Strategic Partnership, which entered into force in July 2017. In February 2022, in recognition of Australia's interest and priorities around industry and technology development, Australia negotiated additional access to ESO's Technology Development Programme as part of the Strategic Partnership, without further payments due.

From ESO's viewpoint, this Strategic Partnership is a resounding success although only a small step towards a bigger successful engagement.

Access to the facilities at La Silla Paranal Observatory by Australian scientists has blossomed in the Strategic Partnership context. Australia has performed well above expectations in its access to observing time on the VLT. Australian institutions have seized opportunities from contracts for building and developing facilities and instruments at ESO. The jewel of the crown is a high-technology instrument for the VLT called MAVIS, led by the Australian National University (ANU) and supported by a network of Australian institutes through Astralis – Australia's national optical instrumentation consortium, as well as other partners in ESO's Member States. MAVIS is bound to be the most advanced adaptive-optics instrument on the VLT, delivering unparalleled scientific capabilities.

I noted with satisfaction that the mid-term evaluation of the Access to World Leading Astronomy Infrastructure program (AWLAI), commissioned by DISR, concluded that the return on investment for Australia on the Strategic Partnership at a relatively early stage was already positive. It also noted that further growth opportunities would arise if Australia would join ESO as a Member State.

The value of Australian contributions to ESO, in terms of science exploitation, community engagement, quality of the contracted deliverables and participation in discussions in the Governing and Advisory bodies, is deemed very high by ESO Member States. Further opportunities to extend this mutually beneficial situation would arise if Australia became a full Member State of ESO, by giving it access and opportunities to the rest of the ESO Programmes, particularly the world-unique ALMA sub-millimetre radio interferometer currently starting a major upgrade and the Extremely Large Telescope which will go on sky a decade ahead of any other of its competitors.

I note with satisfaction that full ESO membership is the top priority of Astronomy Decadal Plan 2026-2035 released by the Australian Academy of Science in July 2025.

The Strategic Partnership was established in 2017 as a steppingstone towards possible Australian membership of ESO, a sort of trial period where the two partners would learn how to work together, prior to addressing full ESO membership. The Strategic Partnership in fact includes an advance payment of Australia's shares of ESO's LPO assets, that would represent a substantial discount (around 25 MEUR) of the special contribution (current estimate is close to 150 MEUR) upon Australia becoming an ESO Member State, should that happen prior to July 2028. Given how close to completion the ELT is, and taking into account this discount, Australia would have the opportunity to join a 2.5 BnEUR world-leading facility at one of the most opportune times, as well as the already operating ESO world-leading facilities LPO and ALMA.



Australia is a very highly valued partner by ESO, demonstrated by the one-time exception made by ESO to agree on a mechanism that differs from that agreed with all ESO member states. By joining ESO as a Member State, Australia would consolidate its international standing in astronomy, through access and development opportunities to the largest optical, infrared and sub-millimetre astronomical telescopes, opportunities in instrumentation and technology development contributing to innovation and economic development, cooperation with the world-leading multi-programme astronomy organisation, generation of human capital development and more generally securing a long-term future for Australian astronomy.

Given that the proceedings towards accession to an Intergovernmental Organisation are lengthy and complex, and that the SP will end in July 2027, ESO raised some time ago to the Australian observers in ESO Council and Finance Committee the need to start exploratory discussions on the matter. At a meeting in Rome in June this year, the Australian delegation explained their plan to elaborate a business case to be submitted for consideration by the Government and requested ESO's support for the preparations. This information was provided in a non-committal way and to facilitate exploration of the mutual benefits for Australia and ESO. These discussions revealed excellent opportunities for Australia. I am optimistic about the value that Australia could bring to ESO as well.

Dear Minister Ayres, I have the obligation to recall that we are now 21 months away from the end of the Strategic Partnership, after which the formal relationship between Australia and ESO will cease, unless a path to full Membership is identified, agreed and negotiated.

I would therefore like to propose that exploratory contacts towards Australian membership are formally established between Australia and ESO at the earliest opportunity. ESO Member States have repeatedly manifested that ESO membership of Australia right after the end of the Strategic Partnership would be much welcome and very highly valued. I'm obviously aware that the required payments are substantial, but so are the value of ESO's assets and potential science, technology and business opportunities. At this point in time, and thanks to the support from its current Member States, ESO is in a unique position to offer access and development opportunities to world-leading astronomy facilities, which in the case of the ELT, no other organisation in the world can offer. Australia as a highly valued Strategic Partner is indeed given priority on this engagement.

I'm also readily available and much willing to travel to Australia and meet with you and your team to discuss any particulars on the subject. Likewise, let me take this opportunity to extend to you a very warm invitation to visit ESO's Headquarters in Garching near Munich (Germany) or ESO's observatory sites in Chile where our world-leading facilities operate or are under construction.

I hope we can soon agree on a joint way forward.

All the best

Prof. Xavier Barcons
ESO Director General

cc: Ms. Natalie Wedell, DISR, Australian Observer to ESO Council
Prof. Sarah Brough, University of New South Wales, Australian Observer to ESO Council
Ms. Bridgette Hargreave, DISR, Observer to ESO Finance Committee

Analysis of ESO options

Option 1: Do not pursue ESO membership - recommended

This option would allow Australia's current Strategic Partnership with the European Southern Observatory (ESO) to lapse when it concludes in mid-2027. Access to ESO facilities would cease for most Australian astronomers in late 2027, s 47C

However, the department recommends this option because there would be a higher expected return on investment from other alternative science projects.

Benefits

ESO membership carries a significant financial cost. This will be greater than under the Strategic Partnership, because membership comes with greater access to ESO's facilities and instrumentation and includes the initial joining fee to buy into ESO's existing asset base (spread over 10 years). Additionally, the required investment would benefit a narrower sub-section of the Australian scientific community than competing priorities like Horizon Europe – though the benefits to that sub-section (optical astronomers) would be world-leading.

s 47C

At the same time, there are multiple high-cost and high-priority investments in the science and broader portfolio, which should be prioritised over ESO membership. s 47C

Withdrawal is permitted after 10 years but carries prohibitive costs. The \$226.5 million membership fee purchases Australia's share of existing ESO assets, worth billions of dollars. However, a departing member is unable to claw back that asset 'buy-in', which would leave that \$226.5 million investment as a sunk cost.

Costs and Risks

Science impacts

Australia ranks among leading nations in astronomy. Australian research publications are cited at 2.5 times the global average (AAS 2025), and Australia is the third highest nation of OECD countries by astronomy papers or citations (Scopus). Australian scientists have contributed to major astronomy discoveries.

¹ Estimate based on the percentage of optical astronomers and theorists in a recent survey for the *Astronomy Decadal Plan*, with 627 people identified in the sector, 29 per cent of whom are optical astronomers, and another 19 per cent as theorists (most of whom are likely to rely on optical astronomy data).

Australia's geographic location provides access to the southern skies and dark, radio-quiet environments, which has offered a natural comparative advantage for both optical and radio astronomy. However, the technical requirements of modern research now require cutting-edge facilities be built in more optimal locations, such as Chile, where conditions of high altitude and minimal cloud cover support a higher return on investment.

s 47C

ESO does not permit buying time on their telescopes – membership is required. s 47C

Australian astronomers would still be able to work as collaborating scientists on projects led by foreign institutions, but would be unable to drive work themselves.

Workforce impacts

In 2023, 627 people were employed in the Australian astronomy sector, in research, instrumentation development, data science, high-performance computing, education and outreach, industry engagement, and space technology. Optical astronomy represents the greatest portion of the sector (29 per cent). The interconnections between parts of the sector mean impacts on optical astronomy affect the whole astronomy sector.

s 47C

Industrial and economic impacts

Australia's astronomy sector contributes to the economy through research outcomes and technological developments (such as advanced engineering and manufacturing capabilities). Analysis commissioned by Astronomy Australia Limited estimates astronomy contributes \$330 million annually to the Australian economy (Holden 2025³) through its contribution to the stock of Australian knowledge and consequent contribution to GDP (though we have not validated this estimate). Astronomy contributes to technological innovation in optics, sensors, and data analytics, which spill over into sectors like AI and climate modelling.

s 47C

³ Professor Richard Holden. (2025). *The Economics of Government Investment in Basic Science: Astronomy, a case study*.

Withdrawal from ESO would forego direct industrial contract opportunities for Australian organisations, including instrumentation, infrastructure, ICT systems, and procurement.

Australia is highly respected for our precision astronomical instrument building. Optical astronomy instrumentation is led by Astralis, with over 100 highly skilled instrument scientists and engineers and close engagement with Australian universities. Astralis' most significant contracts relate to the ESO Strategic Partnership. These contracts often result in institutions developing partnerships with private sector industry, increasing highly technical industrial capability. s 47C

Australian instrument builders may still be able to contribute to future ESO and other astronomy instrumentation, but only as part of a consortium and where ESO Member State institutions cannot otherwise achieve outcomes.

Alternatives to ESO telescopes

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Domestic astronomy infrastructure facilities

Alternatively, the Government could support domestic capability. Domestic investment can capitalise on our geographic location, provide sovereign capability, and provide Australian astronomers access to (non-ESO) foreign facilities by exchanging access rights.

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Option 2: seek an extension of the ESO Strategic Partnership – not recommended

This option would seek to extend the current Strategic Partnership arrangement (the extension) for two further years (until mid-2029), allowing more time to consider broader policy alignment and monitor international developments.

s 47C

Costs and Risks⁷

Any extension requires unanimous approval from all ESO member states, many of whom may view it as a delay in Australia's commitment to full membership.

s 47C

We estimate an extension of the ESO Strategic Partnership would cost approximately \$33 million over three years, comprising a fixed asset component (around \$10 million over three years), and an operational component (around \$23 million over three years).

Table: ESO Strategic Partnership two-year extension costs (\$AUD million) – estimates only

	2027-28	2028-29	2029-30	TOTAL
Fixed asset (capital) component	2.4	4.8	2.4	9.6
Operational component	5.7	11.6	5.9	23.2
Total funding	8.1	16.4	8.3	32.8

Estimated profile of all funding contributions for a two-year extension

Benefits

We expect the cost of extending the current Strategic Partnership would be in line with the current expenses, which is significantly less than the cost of full membership.

s 47C

Next steps

⁷ Funding amounts presented in this are indicative only.

If you support this option, the department would engage informally with ESO to re-test its appetite for a two-year extension to the Strategic Partnership. ^{s 47C}

Option 3: pursue membership of the ESO – not recommended

This option would see Australia pursuing full ongoing membership of ESO through a treaty-level agreement at the end of the current Strategic Partnership (from mid-2027).

Membership would provide Australian researchers competitive access to observing time across all ESO telescopes and enable Australian organisations (institutions and industry) to participate in ESO's suite of instrumentation and procurement programs. Under the current Strategic Partnership, Australian researchers are limited to competitive access to the La Silla Paranal Observatory (LPO), which excludes ESO's most powerful new facilities. Australian organisations can only engage in instrumentation and procurement activities related to LPO.

Due to the large expense and higher-priority investments within your portfolio, we do not recommend this option.

Costs and risks

Funding

Member States are required to contribute to ESO's capital and operating costs. Financial contributions are calculated based on average net national income.

ESO membership is expected to cost approx. \$580 million over 10 calendar years, comprising:

- an annual fee of around \$32 million per calendar year (ongoing, indexed), contributing to the operational costs of the ESO
- a joining fee (spread across 10 calendar years) of around \$20 million per year (indexed) that contributes to ESO's capital investment and fitting-out costs. This fee has been reduced (by \$40 million) to reflect Australia's previous capital contributions made under the Strategic Partnership
- a contribution to the ELT project of around \$3 million.

The estimated profile of all funding contributions to full membership over 10 years

	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	TOTAL
Joining fee	20.7	21.1	21.5	21.9	22.4	22.8	23.3	23.8	24.2	24.7	226.5
Annual contributions	32.0	32.6	33.3	34.0	34.6	35.3	36.0	36.8	37.5	38.2	350.4
ELT contribution	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.2
Total funding	54.3	55.3	54.8	55.9	57.0	58.2	59.3	60.5	61.7	63.0	580.0

Table: ESO - Accession and membership costs (\$AUD million) – estimates only

Note: Joining fee has been reduced by Australia's previous capital contributions under the Strategic Partnership

While up to 25 per cent of Australia's joining fee (\$62 million) can be made through in-kind contributions, this would not necessarily reduce costs as funding would be required. The main benefit would be industrial. Australian organisations engaged with approved in-kind ESO projects effectively bypass the competitive process typically reserved for such projects.

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Benefits

Securing membership of ESO would help sustain Australia's leadership in the field. The new Astronomy Decadal Plan 2026–2035 (AAS 2025) places ESO membership as the Australian astronomy community's top priority.

Access to ESO contracts could stimulate innovation across Australia's high-tech economy by exposing local organisations to complex projects in instrumentation, infrastructure, ICT systems and software development. The value can be considerable. For example, ELT construction included a €400 million contract awarded to two Italian companies. The level of specialisation requires consortia of universities and industrial companies. This can drive increasing capabilities in advanced and high-precision manufacturing that could flow into areas such as aerospace, defence, and medical technology. Membership would provide opportunities beyond those provided by the Strategic Partnership.

Next steps

s 47C



**SENATOR THE HON TIM AYRES
MINISTER FOR INDUSTRY AND INNOVATION
MINISTER FOR SCIENCE**

MS25-001539

Prof. Xavier Barcons
ESO Director General
European Southern Observatory Headquarters
Karl-Schwarzschild-Strasse 2
85748 Garching bei Munchen

Dear Professor Barcons

On behalf of the Albanese Government, I would like to convey our appreciation for Australia's opportunity to participate as a Strategic Partner in the European Southern Observatory since 2017. I recognise the astronomy capabilities and collaborative opportunities this has provided to the Australian astronomy sector. This partnership has also allowed Australian astronomers to contribute to global astronomy research efforts.

After careful consideration, Australia has decided not to pursue European Southern Observatory membership. The Government values our close relationship with European nations in science and research. We consider there are other opportunities to deepen that relationship, and we look forward to exploring those opportunities further.

Australia remains committed to the current Strategic Partnership and ensuring this delivers value for both the European Southern Observatory and the Australian astronomy community.

Yours sincerely

TIM AYRES
/ /2026



Australian Government
**Department of Industry,
 Science and Resources**

Ministerial Submission

MS25-001539

FOR ACTION – Decision on whether to join the European Southern Observatory (ESO) Treaty

TO: Minister for Industry and Innovation; Minister for Science

CC: Assistant Minister for Science, Technology and the Digital Economy

TIMING

s 47C

Recommendations

That you:

- **Note** the letter from ESO Director General Prof Xavier Barcons (Attachment A) proposing the establishment of formal exploratory contacts on Australian membership to the ESO.

Noted / Please discuss

- **Note** the department's analysis of options for engagement with the ESO, as outlined in Attachment B and summarised in this brief.

Noted / Please discuss

- **Agree** not to pursue ESO membership, with Australia to complete the remaining term of the current Strategic Partnership (ceases in mid-2027).

Agreed / Not Agreed / Please discuss

- **Sign** the letter (Attachment C) advising ESO of your decision not to pursue membership.

s 47C

Signed / Not signed

- **Note** the department will work with your office to advise key Australian astronomy stakeholders of your decision prior to your letter being sent to ESO.

Noted / Please discuss

Signature

Date: 27/2/2026