

Business Plan 2022-23

Version 2 – March 2022 (approved by Management Committee)

1. Introduction

In September 2021 Armagh Observatory and Planetarium approved a new five-year Strategic Plan, building on the success achieved since the merger of the Observatory and Planetarium in 2016 and successful delivery of our first Corporate Plan 2018-21.

This new strategy was written at a particularly challenging time during the second year of COVID-19. Applying the lessons learned from dealing with COVID-19 we are focused on the contribution AOP can make to long-term societal and economic recovery, and to the public understanding of science.

In developing our new strategy we have taken significant account of the January 2021 Draft Programme for Government Outcomes Framework and our strategic themes support delivery across a number of PfG outcomes and DfC priorities.

AOP Strategic Themes			
Enduring Relevance	National & International Standing	Offering More	Pursuing our Priorities

2. Key Achievements in 2021/22

AOP operations continued to be dominated by COVID-19 in 2021-22. The Planetarium re-opened to the public at the end of June 2021 and despite restrictions on capacity has performed well above what was anticipated. Some key highlights include:

- Presentation at COP26 of in-house developed climate change Dome Show 'Our Place in the Cosmos'. Full-capacity 14 shows viewed by approximately 3,000 people, providing AOP with a global stage which also acknowledged DfC support. Parallel events held at AOP.
- 'Mission Santa' Event attracting 2,500 visitors sold out practically on release. Musical Dome shows also added and selling well, Pink Floyd consistently sells out.
- AOP's income and visitor figures are significantly higher than comparative 2019 pre-covid figures despite Planetarium operating at 40-45% capacity due to covid restrictions.
- Customer feedback extremely positive exceeding 88% for 4+ out of 5 ratings.

In addition:

- "Big Book of Experiments and Bright Ideas" sent to 850 primary schools, the capability to do so developed during AOP's pivot in the lockdown.
- Exciting Data Visualisation project progressing with considerable interest shown from a number of different bodies including Local Government, Universities and Central Government including NISRA. This also includes substantial collaborative bids to North/South and NI funding opportunities which would avail of this new capability.
- REF-equivalent (Research Excellence Framework) recognition of AOP's research being world-leading or of international standing.

- Robust governance in place with 9 new members appointed to the Management Committee/Board of Governors in 2021 and a high level of assurance from internal and external audit.
- Additional DfC funding allocations of £164,000 Resource (in addition to £1,729,000 baseline budget) and £979,000 Capital.

3. External Context and Environment

AOP is preparing this Business Plan in the context of an unclear and uncertain political and financial environment. The 2022/23 budget position is unclear and AOP has been advised that budget allocation will initially be for a 2/3 month period only as the NI public sector budget had not been approved before the collapse of the Executive. AOP will continue to plan in a pro-active and positive way, looking for opportunities and partnerships to support delivery of its objectives, but with the caveat that in an uncertain public sector environment our plans may need to be changed/scaled back within the constraints resulting from the lack of political stability.

4. 2022-23 Objectives

4.1 **Enduring Relevance:** Our extraordinary heritage makes us a valued asset in terms of tourism and education and a much-cherished presence in our community. We will continue to deepen and enhance that unique combination, ensuring that AOP’s continued role in promoting science retains local, national and international significance.

2022/23 Objective	How we will do it	What success will look like
Develop/expand our audiences across a range of tourism and education activities	<ul style="list-style-type: none"> • Review operating model and staffing to meet the demands of an expanded programme; • Leverage funding opportunities to improve offerings and increased marketing activity; • Programme of special events and tours in addition to core offering; • Launch and establish a membership programme to encourage and reward regular visitors • Raise our profile and engagement with local audiences through targeted PR and specific local events; • Engagement with Tourism NI Experience Marketing 	<p>A vibrant programme of activities and events throughout the year and ‘must visit’ destination attracting local, regional and international visitors exceeding pre-pandemic performance, measured by reaching the following targets by 31 March 2023 –</p> <ul style="list-style-type: none"> • 43,000 public visitors (3% on 2019/20 target to bring our visitors back to pre-Covid figures) • £486,000 income (58% growth on 2019/20 targets)

	<ul style="list-style-type: none"> • Enhancement of our grounds and Astropark to increase dwell time and visitor experience; • Ensure equality of access and participation as a core planning objective of our planned investments and events. • Expand accessibility of dome shows 	<ul style="list-style-type: none"> • 80% customer satisfaction rating of 4 or above out of 5 • 75 number bed nights from a collaboration with local accommodation providers (50% growth compared to 50 in 2021/22)
Communicating the value of science including astronomy and climate change	<ul style="list-style-type: none"> • Expand schools programme to include ecology/climate change options • Expand the input of astronomers and PhD students in the delivery of events and programmes • Use of social media, blogs and PR to maximise public reach • Expand secondary education programme (GCSE/Junior Cycle) • Engagement with STEM Ambassadors programme • Continue to deliver online education (Cosmic Classroom), particularly for hard to reach schools 	<p>A valued educational resource supporting delivery of curricula led educational content to schools and science led, accurate information for the public measured by reaching the following targets by 31 March 2023 -</p> <ul style="list-style-type: none"> • 12,000 school visitors (Bringing this back to pre-covid figure of 12,784 in 2019/2020) • 2 new school programmes (ecology and GCSE programme) • 4 events focused on the work of astronomers and students • 20 cosmic classroom events • 15 Press Releases produced for print media • 3 pieces of broadcast TV coverage
Recognised as a significant astronomical heritage site	<ul style="list-style-type: none"> • Continue to strengthen links with Birr and Dunsink to further explore opportunities for joint research, tourism and other partnership opportunities and ultimately aiming towards UNESCO World Heritage listing (a decade-long quest) • Develop linkages with local, national and international bodies related to pursuing future UNESCO bid. 	<p>High profile recognition of the contribution of Ireland to world astronomy and the historic and continuing collaboration between the significant contributors of Armagh, Birr and Dunsink and exploration of joint projects and funding opportunities to future collaboration. 2022/23 measures are to:</p> <ul style="list-style-type: none"> • Deliver one pilot event to raise awareness of the Armagh-Birr-Dunsink partnership

	<ul style="list-style-type: none">• Safeguard our built and natural heritage through a planned maintenance programme and outline business case for future restoration• Safeguard our historic instruments and heritage assets through identifying and engaging expert advice and assistance and retaining specialist collection skills within the organisation• Make an application to be recognised as an Urban Dark Sky Place	<ul style="list-style-type: none">• Achieve Urban Dark Sky place accreditation
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4.2 **National and International Standing:** AOP enjoys a reputation as a distinguished national and international scientific research institute. We will continue to create opportunities and partnerships to enhance our standing as an education provider and a key contributor to the goal of giving children the best start in life. Working in conjunction with education authorities we will maintain and enhance our role as a key institution in local STE(A)M curricula, becoming a regional/national hub for public outreach and explaining Big Data science.

2022/23 Objective	How we will do it	What success will look like
Recognised as a key player in international astronomy	<ul style="list-style-type: none"> • Enhanced PhD programme (i.e through N/S partnership and co-funding opportunities) • Active role in international projects (in particular observatories) • Continued collaborations and contributions to published papers • Recognition of AOP research esteem through invitations to deliver public and scientific lectures, to participate to international bodies and to serve on grant panels • <i>Implement an Action Plan that will assist us to demonstrate best practice and achieve the Institute of Physics Project Juno Gender Equality Champion Award by April 2023</i> 	<p>A vibrant scientific research environment attracting funding and support from All Island and other funding bodies to grow and expand. 2022/23 targets are:</p> <ul style="list-style-type: none"> • 50 published papers • 12 scientific talks at international conferences • 12 public talks by scientists • 3 PhD student intake in October 2022
Position ourselves as a unique venue for national and international scientific conferences and events	<ul style="list-style-type: none"> • Reconnect with opportunities to host conferences delayed in 2020 and 2021 and using our links to promote AOP for consideration as a conference venue • Reach out to educators, employers and interested voluntary groups to encourage visits and use of our facilities in the pursuance of promoting STEM education and the understanding of science 	<p>Recognised as a suitable conference venue in the forward planning timetable for major astronomy conference and seminars. A resource used by other science organisations and STEM providers for delivery of events. 2022/23 targets are:</p> <ul style="list-style-type: none"> • 8 organisations using our facilities for events or seminars

	<ul style="list-style-type: none"> • Explore opportunities to work with other science providers to make use of our facilities to expand on provision of STEM education programmes 	
Grow and diversify our research programmes to maximise funding opportunities and attract the best talent	<ul style="list-style-type: none"> • Identify and make application for funding opportunities including collaboration with universities to deliver shared PhD opportunities • Capitalise on data visualisation capital investment, embedding DV in PhD training and education through partnership with IZIKO planetarium and Opik fellow. • Continue to develop the scientific Visitor programme and expand opportunities for Visitors to contribute to the work of AOP through delivery of events and seminars 	<ul style="list-style-type: none"> • Facilitate 6 on-site scientific visits . • 1 non-astronomy externally funded PhD

4.3 **Offering More:** We are committed to an ambitious plan for state of the art data visualisation facilities. This will allow us to explain and explore ideas in stunning new and engaging ways. Technology is not the goal, it is the means to deliver, share and inspire.

2022/23 Objective	How we will do it	What success will look like
Engage with other scientific organisations to share ideas and use of AOP facilities	<ul style="list-style-type: none"> • Set up and demonstrate the capabilities of our DVL facilitates to potential partners 	By March 2023 AOP will have established recognition as an emerging leader in data visualisation and a regional resource available for use by other science organisations and educators.
Continue to invest in emerging technology to offer excellent research facilities and educational experiences	<ul style="list-style-type: none"> • Explore best practice and opportunities to be included in future development plans • Optimise use of recent investment in technology investment to assist the business planning process and opportunities that could arise from future investment 	Targets for 2022/23 – <ul style="list-style-type: none"> • develop one non-astronomy partnership in the use of DVL facilities

<p>Develop the applications of the immersive experience for story-telling and education in science</p>	<ul style="list-style-type: none">• Develop applications for the Puffersphere telling stories of astronomy, the Observatory, current research, climate change• Expand Data Visualisation tools to include use of VR in educational activities.	<ul style="list-style-type: none">• Create 2 new Puffersphere applications in-house• Develop 1 new educational workshop using VR
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4.4 **Pursuing our Priorities:** To realise our plans and achieve our goals is built on three key priorities (1) state of the art Research and Planetarium facilities (2) the need to grow our capacity (3) the need to add skills across the organisation.

2022/23 Objective	How we will do it	What success will look like
Continue engagement with DfC and other stakeholders to gain formal project status for the redevelopment of AOP	<ul style="list-style-type: none"> • Appoint a Project Manager to lead on the development of an Outline Business Case for approval of a preferred option • Work in partnership with ABC Council on a masterplan and joint outline planning application for the Armagh Leisure Village and AOP development proposals • Pursue funding applications with ABC Council and other stakeholders to fund/part fund development opportunities 	<p>Widespread stakeholder support for AOP redevelopment as a cross cutting flagship development opportunity.</p> <p>2022/23 targets are</p> <ul style="list-style-type: none"> • submit an OBC for approval by DfC/DoF • secured outline planning approval of a Masterplan for the joint AOP/ALV project • submit at least one major funding application in pursuance of implementing the next stage of development
Pursue partnerships and collaborations to identify and bring in skills and resources to assist delivery of our objectives	<ul style="list-style-type: none"> • Participate in placement and other employment support opportunities with education bodies and government departments • Pursue partnerships and funding opportunities to bring in new skills and resources necessary to grow AOP's capacity to deliver. 	<p>AOP will have expanded its capacity to deliver by securing the increased professional, technical and support skills necessary to deliver its objectives.</p>
Develop our environmental strategy and targets for reducing our carbon footprint and encourage our visitors to consider their own impacts	<ul style="list-style-type: none"> • Agree and publish an environmental plan to meet our commitment to reduce our carbon emissions by 50% by 2030 • Identify and submit funding bids to assist us to reduce carbon impact • Be visible and educate visitors on the environmental practices within our public facing facilities including delivery of a community/schools competition on Climate Change • Introduce programming and events specifically targeted and raising awareness of the impact of climate change 	<p>Be recognised as an organisation that lives its environmental values through using investment in reducing its own carbon footprint as educational tools for our visitors.</p> <p>Deliver 1 large scale community/schools climate change event</p>

4 Making it Happen

4.1 Budgets

AOP has developed this Business Plan in the absence of a confirmed budget for 2022/23. Assuming a baseline budget at the same level as 2021/22 AOP has submitted a pressure bid of £140k based on the following budget pressures:

- Reduction in STFC grants £97k
- Energy costs £22k
- ERNI contributions rising by 1.25%
- Maternity leave replacement post £25k
- Permanent ICT Officer post rather than placement student £13k

These pressures have been offset by cost savings in other areas of £28k. All other inflationary cost increases have been mitigated by ambitious visitor and income targets.

In addition to the core funding grant provided by DfC and the income derived from commercial activities, AOP research is reliant on grant funding awarded from STFC. Two grants worth £232k per annum are currently secure up until March 2024.

A funding application for £84,589 to NLHF, if successful, will secure continued delivery of heritage led activities in 2022/23.

In addition to this AOP has bid for an additional £185,000 resource funding to support preparation of an Outline Business Case for future development. This investment is required to keep momentum and pace with ABC council development plans which impact on AOP estate and to realise opportunities from taking a Masterplanning approach to maximise opportunities from both projects for joint funding bids and taking development of the site.

AOP has committed capital tails into 2022/23 of £134k. In addition to this a capital funding application to Tourism NI for a £400,000 project to deliver an improved outdoor visitor experience will require a match funding commitment of £200,000 from DfC if successful.

An outline budget for 2022/23 is provided as an appendix.

4.2 People and resources

AOP has recognised skills deficiencies in a number of areas and keeps under review opportunities to develop partnerships and bid for funding to fill these gaps. AOP has reviewed its operating models focused on key risks and ability to deliver an ambitious programme of

activities. In 2022/23 AOP has made provision for reducing risk through strengthening its staffing structure in key areas of ICT and public outreach. However, there are still other areas such as technical skills to maintain *technical equipment and historic instruments and research support in maintaining historic archives and collections and key software/data bases relating to weather etc that require additional investment*. AOP has sought to make use of in year monitoring round bids and external funding applications to plug gaps through short term projects and work programmes.

As a small knowledge-based organisation the ability of AOP to nurture and maintain the drive and commitment necessary to maintain a reputation as a world class research organisation and scientific education provider is very important. Resources such as ICT, equipment, fees and subscriptions to enable networking and partnerships to thrive and maintaining a vibrant PhD student programme are a key component of attracting and retaining the talent.

AOP undertakes an Annual Staff survey in November/December each year. The 2021 survey has evidenced underlying stresses which could be partly due to the pandemic and continued remote working but also due to workload pressures as a result of increasing demands on a small workforce. AOP has reviewed the delivery model and staffing needs required to deliver the range of services to meet the visitor and income targets set and will increase front line staffing to be able to meet these needs. In addition, AOP will prioritise recommencing delivery of two full in-person staff engagement events to strengthen teamworking and engage staff in future planning activity.

AOP has developed a separate HR Strategy and Annual Action Plan to assist delivery of its Corporate Strategy and will report quarterly to the Staffing Policy and Remuneration Committee on progress against the Action Plan.

4.3 Governance

In 2021/22 in addition to the normal programme of audit, AOP was subject to external compliance reviews by HMRC (PAYE and VAT) and UKRI Grants. AOP also conducted a REF (Research Excellence Framework) review of research, paralleling the exercise undertaken for universities.

AOP will continue to strive towards achieving the highest levels of assurance from external and internal audit and to manage risk in an open and transparent way in consultation with its ARAC committee and DfC sponsor branch. An External Quality Assessment (EQA) of AOP's Internal Audit Function was conducted in March 2021 resulting in satisfactory assurance.

AOP continues to facilitate remote meeting arrangements for its Board of Governors and Management Committee meetings and anticipates hybrid arrangements will continue to be the norm to facilitate those members who would have to travel long distances to attend a half day meeting. However, AOP recognises the value of in person engagement and also the need to allow time for a greater breadth and depth of engagement to allow members to contribute more meaningfully to AOP strategic development. In 2022/23 AOP will

implement recommendations arising from Board of Governors, Management Committee and sub-committee effectiveness reviews to improve governance and accountability, this will include facilitating an annual two day Management Committee seminar. AOP is also engaging with DfC to agree a Partnership Agreement to replace the existing MSFM, outlining our responsibilities and accountabilities to our DfC Sponsor Branch.

Budget Projections 2022-23

	2022/23	2021/22
INCOME		forecast
Sponsor Department Resource Grant-in-Aid	£1,729,000	£1,893,000
Admissions and trading income	£486,000	£332,247
Other income (non-research grants, rents, etc)	£26,940	£19,953
Total Income / Grant-in-Aid	£2,241,940	£2,245,200
DIRECT COSTS		
Planetarium direct expenses and trading costs	£253,500	£206,379
Salaries (Academic & Education)	£998,612	£896,359
Student costs	£94,404	£92,714
Library & conservation	£35,120	£49,176
Travel, meetings, conference & visitor costs	£44,000	£21,946
Technical consumables, minor technical equipment	£35,400	£33,840
Other research costs	£15,000	£15,000
	£1,476,036	£1,315,414
GOVERNANCE COSTS		
Management committee costs	£3,000	£976
Audit	£29,520	£27,558
Professional & legal fees	£196,000	£58,966
Recruitment & training	£12,380	£13,364
	£240,900	£100,864
ADMINISTRATION & SUPPORT COSTS		
Salaries (management, finance & admin)	£629,758	£629,286
Heat, light, insurance & rates	£123,040	£104,757
Buildings, grounds & property maintenance	£160,020	£266,769
Postage, stationery, telephony & printing	£49,220	£49,431
Other expenses	£7,920	£11,761
	£969,958	£1,062,005
LESS Overheads subsidised by external grants	-£110,886	-£233,214
TOTAL EXPENDITURE	£2,576,007	£2,245,069
SURPLUS / (DEFICIT)	-£334,068	£131

External grant income from scientific organisations	£308,315	£480,134
Expenditure funded by external grants		
Salaries	£100,092	£138,384
Student costs	£71,657	£70,337
Travel, meetings & visitor costs	£24,000	£15,073
Technical equipment and consumables	£1,080	£23,126
Other costs	£600	£0
Overheads funded by external grants	£110,886	£233,214
	£308,315	£480,134

KPIs

KPI	Description – target date 31 March 2023 unless otherwise stated
1	Attract 55,000 visitors (to include 43,000 public visitors and 12,000 school visitors)
2	Achieve £486,000 income from admissions and sales
3	Achieve an 80% satisfaction rating of 4 or above out of 5
4	Achieve 75 number bed nights from a collaboration with local accommodation providers
5	Deliver two new school programmes (ecology and GCSE)
6	Deliver 4 events focused on the work of astronomers and PhD students
7	Deliver 20 cosmic classroom events (10 paid and 10 free for schools with low educational achievement in STEM)
8	Press coverage: <ul style="list-style-type: none"> • 15 Positive Press Releases for print media • 3 broadcast TV coverage
9	Deliver one pilot event to raise awareness of the Armagh-Birr-Dunsink partnership
10	Achieve recognition as an Urban Dark Sky Place
11	Publish 50 articles in referenced scientific journals
12	Scientific Outreach: <ul style="list-style-type: none"> • 12 scientific talks at international conferences • 12 public talks by scientists
13	Admit 3 new PhD students in October 2022
14	Attract 8 number of external bookings for events or seminars
15	facilitate 6 onsite scientific visits
16	Develop one non-astronomy partnership in the use of DVL facilities
17	Create 1 externally funded non-astronomy PhD
18	Create 2 new Puffersphere applications in house
19	Develop one new educational workshop using VR

20	Submit an OBC for AOP future development
21	Secure outline planning approval for a joint development Masterplan in partnership with ABC Council
22	Submit one major funding application in pursuance of AOP future development
23	Deliver 1 community/schools climate change event
24	Achieve £420,000 funding from scientific sources to support AOP research