



# Connecting the World Under One Sky

The IAU Office for Astronomy Outreach and  
the 100 Hours of Astronomy

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# IAU OFFICE FOR ASTRONOMY OUTREACH



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# Why Astronomy Outreach Matters

**BUILD**

**INSPIRE**

**PROMOTE**

**STRENGTHEN**

**CONNECT**



*public  
engagement*

*professionalisation  
of astronomy  
communication*



# OA0 Global Themes



Women and Girls in Astronomy



Inclusive Astronomy Communication



Dark and Quiet Skies

OAQ Global Project



# 100 Hours of Astronomy

100 Years of the Planetarium

2 - 5 October 2025





100 Hours  
of **Astronomy**

# GLOBAL COMMUNITY EVENTS

INTERNATIONAL  
PARTICIPATION

YOUTUBE  
LIVESTREAM



**NAOJ**  
National Astronomical  
Observatory of Japan

**IPS**

# YOUTUBE LIVESTREAM



Stream #1: 24 Hours of the Planetarium



Stream #2



Stream #3



Stream #4: 24 Hours of the Planetarium



Stream #5: 24 Hours of the Planetarium



Stream #6: 24 Hours of the Planetarium



Stream #7: 24 Hours of the Planetarium



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# The 24 Hours Livestream

Continuous global digital engagement

## Features:

- **Multilingual programming**
  - **Global presenters**
- **Real-time participation**
  - **Interactive chat**



39

countries involved

93

country-specific presentations

42

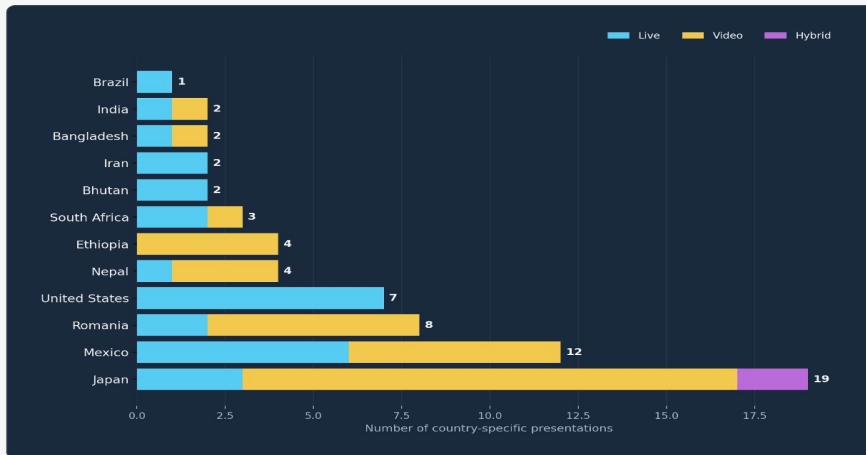
Live presentations

49

Recorded videos

## Country participation

Top countries by number of country-specific presentation slots



### Key takeaways

- 1. Japan — 19
- 2. Mexico — 12
- 3. Romania — 8
- 4. United States — 7
- 5. Ethiopia — 4

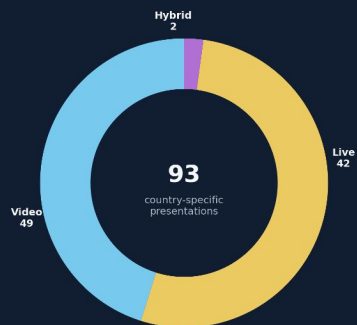
#### Concentration

Japan and Mexico account for one-third of all country-tagged presentations.

#### Mode mix in leaders

Japan is mostly video-led, while the United States is entirely live in this schedule.

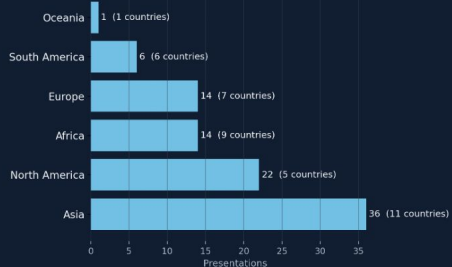
### Format mix



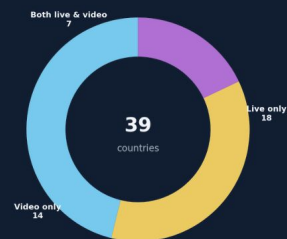
## Geographic footprint

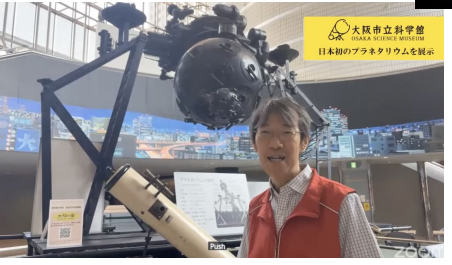
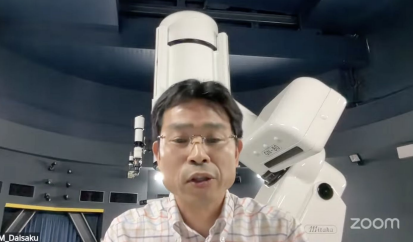
Participation spans six regions, with Asia the strongest contributor by volume

### Regional contribution



### Country participation pattern





# Naming a Star

Only the IAU can name celestial objects

Scientific Criteria IAU-policy of diversity

## Formal Criteria

- name in Latin alphabet/ no diacritics
- 16 characters max.
- no match with existing names



ELEMENT SPACE

### IMPACTO A 3000 PERSONAS

- Santiago
- Feria del libro
- Villa Allargracia
- Feria de San Isidro
- Herrera
- Malina
- Monte Pinto
- Feria de San Isidro



IPS

Celebrating The International Day of Women and Girls in Science 2022

BIRBA All Girls Astronomy Workshop 2022

A Date: 7-8  
On: 22 February 2022  
6.30-8.00pm

INSPIRED BY DR. BIBHA CHOWDHURY, A PIONEERING INDIAN WOMAN IN SCIENCE

BIRBA ALL GIRLS ASTRO

A GLIMPSE OF 7-8-YEARING INDIAN WOMAN IN SCIENCE

WE ARE NOT JUST TEACHING, WE ARE INSPIRING AND MOTIVATING

# Digital Engagement Metrics

## Reach & impact at a glance

Headline metrics from the six four-hour livestream segments

### The livestream delivered breadth and depth at the same time.

- Average peak concurrent viewership remained strong for niche science content.
- Early streams captured nearly 60% of all views.
- Watch time and re-entry behaviour show viewers stayed engaged beyond initial clicks.
- Subscriber conversion remained meaningful for a broad public event.

**20+ countries**

global audience footprint across all continents

**60.1**

avg peak concurrent viewers

**39.3**

avg concurrent viewers

**1,162**

avg views per stream

**200.8h**

avg watch time per stream

**656**

avg unique viewers

**16.3**

avg subscribers gained

### Impact snapshot

- Streams 1–3 accounted for nearly 60% of total views
- Event-wide subscriber conversion was approximately 1.4%
- Geography shifted from Asia/Europe earlier to the Americas later in the cycle

## Session arc



## What matters for programming

- Opening blocks benefited most from anticipation and promotion.
- Mid-cycle blocks may benefit from interactivity or highlight resets.
- Closing blocks regained strength through re-entry and cross-regional participation.

## Global footprint and audience handover

Geography validates the "follow-the-sun" design of the broadcast

### Approximate regional contribution to views



### Important note

These geography shares are narrative approximations from the evaluation text and are rounded, so they do not sum exactly to 100%.

### 20+ countries across all continents

Average viewership per country was ~130 views per session.

Highlighted countries in the audience footprint



### Audience handover by UTC block

Early blocks were dominated by Asian and European audiences; later blocks transitioned toward Latin American and U.S. viewership.

03:00-15:00 UTC

15:00-03:00 UTC

## Cohort growth, demographics & conversion

Audience mix shows both first-time reach and meaningful repeat behaviour

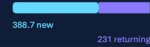
### Audience growth model



### Repeat value

AVPV averaged 1.6, above the 1.1-1.5 long-form STEM range cited in the evaluation.

### Average cohort mix



### Gender share by stream



S5: no demographic data obtained

### Top age group by stream

S1 55-64 (33.9%) • S2 55-64 (37.2%) • S3 35-44 (46.3%)  
S4 35-44 (42.4%) • S6 55-64 (44.9%)

IAU OAO • Digital matrix overview

24 Hours of the Planetarium

# Reach & impact: what this means

The data support the livestream model as a scalable global outreach format

## 1 Global reach

20+ countries participated, with Japan acting as the geographic anchor and the Americas strengthening later-session continuity.

### Why it matters

The event did not depend on a single market; it successfully handed the audience from region to region.

## 2 Quality engagement

Average watch time reached 200.8 hours per stream, AVD averaged 10:28, and APV averaged 7.8%.

### Why it matters

Even across a 24-hour format, the audience showed meaningful staying power and re-entry behaviour.

## 3 Growth engine

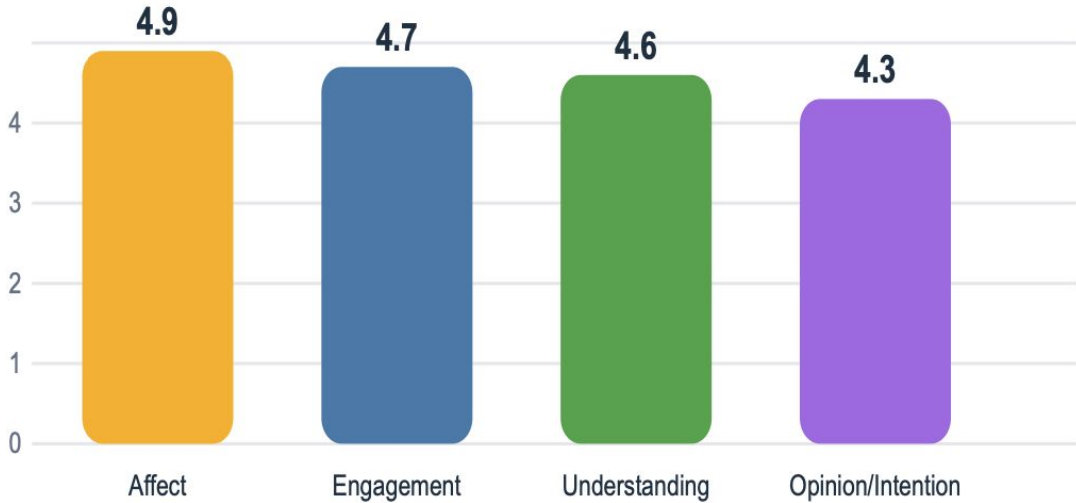
The event outperformed the cited benchmark on reach and audience scale, while external and suggested traffic extended discoverability.

### Why it matters

The model is not only visible in the moment; it also creates durable value through replay, algorithmic discovery and subscriber growth.

# Audience Impact (AEIOU Evaluation Framework)

Mean survey scores across the four reported dimensions show consistently high impact.



### What the scores say

- Enjoyment is the strongest reported outcome, suggesting an immersive and memorable event experience.
- Interest and understanding also scored highly, showing strong science communication performance.
- Opinion and intention change is slightly lower but still strong, pointing to meaningful behaviour-oriented influence.

 **4.55/5**  
Unity score

 **100%**  
felt included

# What drove engagement?

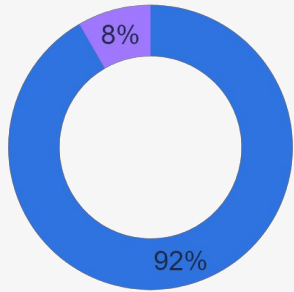
Comprehension improved when scientific explanations and Q&A were present.

## Strongest engagement triggers

- Polls and quizzes
- Cultural prompts such as “How do you say Moon in your language?”
- Q&A and guided scientific explanation moments
- Live planetarium tours and global handovers
- Youth participation and diverse presenters

*Participation was highest when viewers were invited to do something, not just watch.*

## Would recommend the event?



■ Yes ■ Maybe

Almost every respondent said they would recommend the livestream to a friend.

*“Enjoyed listening to diverse and inclusive presentation.”*

Survey respondents only · n=12

## Felt welcomed and included



Belonging was unanimous in this response set — a powerful outcome for a global multilingual livestream.

*“There are countless planetariums around the world, each filled with people who share an interest in space.”*

## Why this matters

- Positive word-of-mouth is the clearest immediate impact signal in the survey.
- Inclusion appears to be a core strength of the event design, not an afterthought.
- For presentations, these two indicators work well as “proof of audience value.”

*“The livestream was not only well received; it also made viewers feel they belonged.”*

*“The starry sky is our common asset and tool of communication.”*



# Community Impact Beyond Metrics

# GLOBAL PARTICIPATION SCALE

A world map where countries are shaded in various tones of blue. The shading represents the participation scale, with darker shades indicating higher participation. The United States, India, and several countries in Europe and Africa are shaded in the darkest blue, while many other countries are in lighter shades.

- **136 community Nodes**
  - **51 countries**
- **309 registered events**
  - **Thousands of participants**

1

18

# Event organiser survey overview

Summary of participation, reach, response patterns, and organiser-reported impact.

**38**

organiser responses

**21**

countries represented

**21.5k**

estimated direct participants

**Approx. 6.56M indirect reach was reported across 29 responses, with media amplification driving the largest totals.**

**21,472**

estimated direct participants

**6.56M**

estimated indirect reach

**92%**

said events increased astronomy interest

**97%**

want future events with OAO

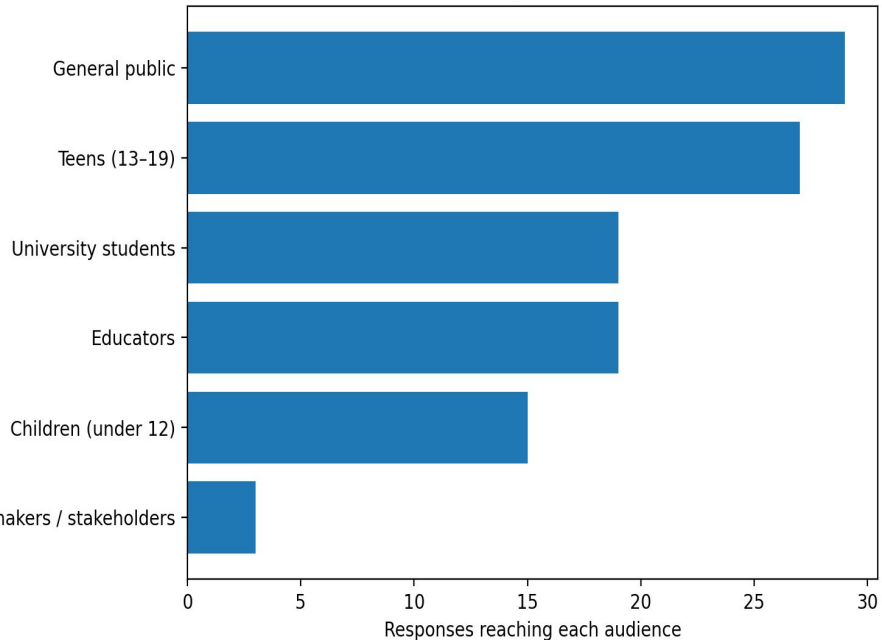
**95%**

rated experience 4/5 or 5/5

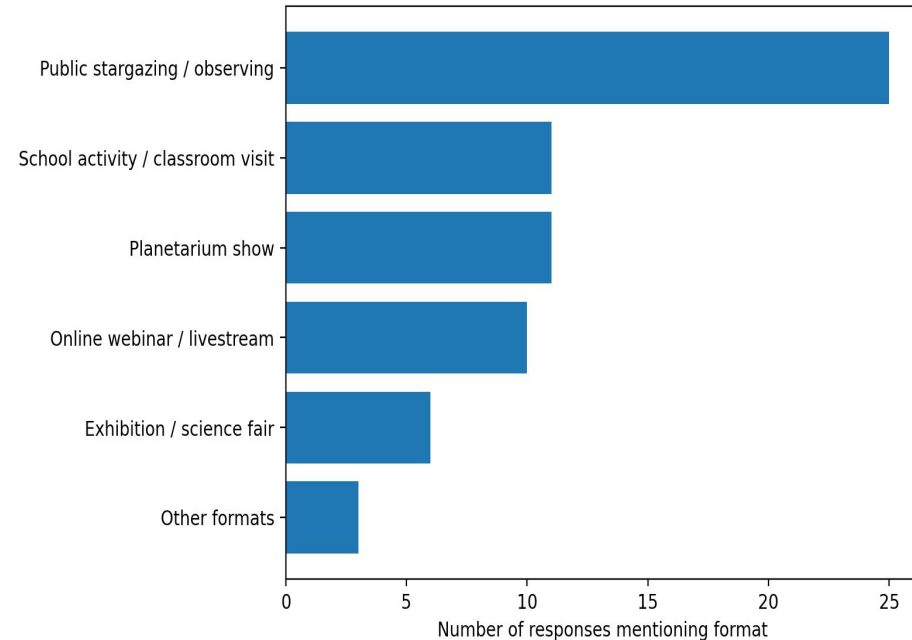
# What organisers delivered and who they reached

Public observing dominated, but organisers also used schools, planetariums, webinars, and fairs to diversify engagement.

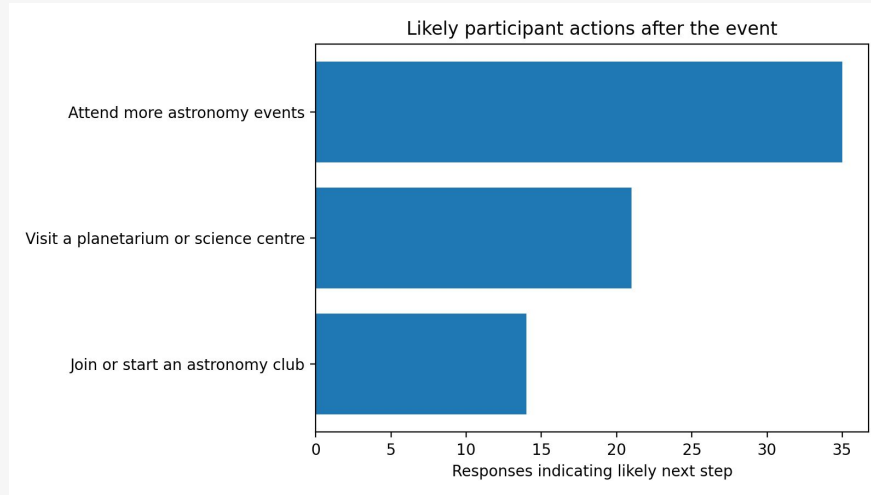
Audience segments reached



Event formats used



# Voices from organisers



***“We got more girls than boys in the events.”***

Nepal organiser

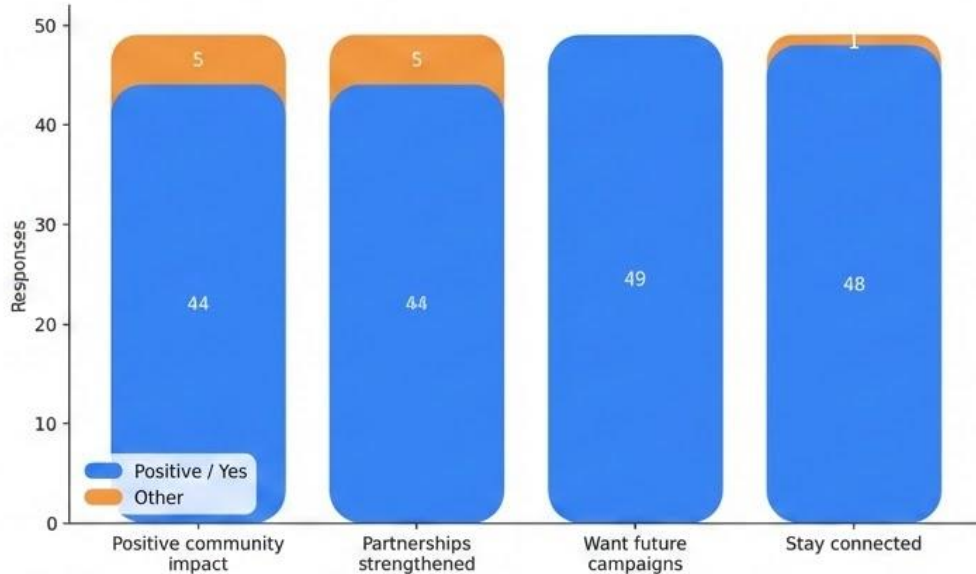
***“Public were eager to know more.”***

India organiser




***“Positive audience reactions.”***

Slovakia organiser

# Node Evaluation Survey Overview



## What this means

-  Community impact is widespread: 90% selected "Yes."
-  Partnership-building is one of the clearest outcomes of Node participation.
-  Intent to stay engaged is exceptionally high, suggesting a strong base for future campaigns.



Impact

90%



Partnerships

90%



Future intent

100%



Stay connected

98%

# Voices from the Nodes

*“Only a few months after a difficult period for our country, 27 astronomy events were held across Iran — a powerful sign of resilience, unity, and passion for the night sky.”*


*“The most memorable moment was seeing students use telescopes for the first time and sharing their excitement with their families during our observation nights.”*

*“I got to meet more people from our circle of contacts and made new (hopefully) lasting connections.”*


*Our Node wrote its first astronomy research paper, now published on Zenodo.*

*One of the most memorable highlights was that, for the first time, many astronomical teams joined together in celebration.*

**These comments reinforce the quantitative picture: Nodes experienced community impact, personal growth, and stronger local relationships.**



Nodes did not just participate — they created visible local impact, built partnerships, and signaled strong readiness to work with OAO again. The next opportunity is to convert that goodwill into an even more supported, more visible, and more connected campaign model.



**The data shows that when astronomy outreach is inclusive, interactive, and globally representative, it does more than attract attention — it builds belonging, curiosity, and motivation to act.**



# Campaign-level reach → experience → action pathway

1

## Global programme

51 countries  
93 country-tagged presentations  
Live + video relay model

2

## Audience reached

21,472+ direct participants  
6.56M+ indirect reach  
1,162 avg views per stream

3

## Positive experience

4.75/5 enjoyment  
4.49/5 node experience  
4.63/5 AEIOU average

4

## Belonging & learning

100% viewers felt included  
4.55 unity score  
Strong multilingual appreciation

5

## Future action

92% viewer advocacy  
97% organiser future intent  
98% node connection intent

*The evidence shows the 100 hours of Astronomy is a campaign that moved successfully from global participation, to meaningful audience experience, to strong signals of future engagement and community continuity.”*

# Final Conclusion

## 100 Hours of Astronomy is a strong global outreach model.

### Summary

- The campaign reached globally across presenters, audiences, organisers, and Nodes.
- Reported experience was consistently positive, with especially strong signals around inclusion, enjoyment, and support.
- Organisers and Nodes reported real local value: increased interest, partnerships, visibility, and willingness to continue.
- The combined evidence supports continuation and scaling rather than redesign from scratch.

### Recommended next moves

- Protect multilingual and interactive elements
- Give organisers earlier toolkits and promotion support
- Create stronger post-event pathways into clubs, centres, and repeat events

*“The campaign was more than a broadcast: it was a globally shared astronomy experience that generated reach, belonging, and momentum for future action.”*

# Thank you!

Do you have any questions?

[iaoutreach.org](https://iaoutreach.org)

