

NAMMCO ANNUAL MEETING 33

MEETING OF THE COUNCIL

24–26 March 2026

Hotel Hans Egede, Nuuk, Greenland

DOCUMENT 15	Update on the MINTAG project: March 2025–February 2026
Agenda item(s)	6
Submitted by	MINTAG Steering Group / Secretariat
Action requested	<ul style="list-style-type: none"> • Take note • Support securing funding for the partners institutes for the 2026 deployment
Background/content	<p>NAMMCO member countries and Japan agreed in July 2021 to collaborate on a scientific project aimed at developing smaller satellite tags for use on pilot whales and fast-swimming rorquals. These species had not yet been successfully satellite-tagged over the long term, and information on their migration, stock structure, and mixing remained limited or lacking, hindering well-informed management.</p> <p>The project was officially launched on 4 August 2021 during the first meeting of the MINTAG Steering Group (StG), composed of scientists from the four NAMMCO member countries and Japan, as well as representatives from the Fisheries Agency of Japan (FAJ) and the NAMMCO Secretariat. Since then, the project has progressed through regular collaboration among the partners.</p> <p>The MINTAG StG developed and deployed MINTAG satellite tags in 2023, 2024, and 2025, and is now entering the final phase of the project, which includes a large-scale deployment of tags (124) in 2026.</p> <p>This document provides the progress report for the period March 2025 to March 2026, along with an overview of the current project status and an activity plan extending to March 2027.</p>

1	Project background	1
2	Project timeline.....	1
2.1	Project development in the period March 2025 – March 2026.....	2
2.1.1	Schedule of Steering Group’s meetings and activities	2
2.2	Changes in the project schedule	4
3	Deployment of the V0c tags in 2025	6
3.1	Summary of deployments in 2025	6
3.1.1	Faroe Islands.....	6
3.1.2	Greenland	6
3.1.3	Iceland	6
3.1.4	Japan.....	7
3.1.5	Norway	7
3.1.6	Collaborative projects	7
3.2	Success of tagging efforts in 2025	7
4	Plans for tag dDeployment in 2026.....	8
5	Dissemination and outreach	9
5.1	MINTAG website.....	9
5.2	MINTAG workshop	10
5.3	Plan for scientific publications and participation at conferences	11
6	Financial update.....	11
6.1	Partner’s financial direct contributions.....	11
6.2	Changes in Project Budget.....	12
6.3	Cost and expenses from 2021 to March 2026	12
7	Conclusion of the progress of the project	13
	APPENDIX 1: Overview of project activities since July 2021.....	15
	APPENDIX 2: Project reporting since the project was launched	19
	APPENDIX 3: MINTAG plan as per March 2025	20

1 PROJECT BACKGROUND

The primary objective of this project is to develop smaller and lighter satellite transmitter tagging systems, known as MINTAG (MINIaturised TAG), specifically designed for studying fast-swimming baleen whales, including blue, fin, minke, sei, Bryde's, and long-finned pilot whales. These species have historically lacked successful long-lasting tags, resulting in limited knowledge about their wintering movements and migrations.

Project partners include the Faroe Islands, Greenland, Iceland, Japan, and Norway. The initiative is overseen by a Steering Group (StG), which reports to the NAMMCO Finance and Administration Committee (FAC). The project is led by Mads Peter Heide-Jørgensen (Greenland Institute of Natural Resources) and supported by five partner-nominated scientists with expertise in whale satellite tagging. Additionally, the Fisheries Agency of Japan (FAJ) and the NAMMCO Secretariat are members of the StG. The tag producer is Wildlife Computers (WC).

The composition of the StG in terms of members changed somewhat since the project was launched in 2021 (changes in staff) and is now composed of the following persons:

- FO: B. Mikkelsen, Faroe Marine research Institute (FAMRI)
- GL: M. P. Heide Jørgensen (Project Leader, and B. Lyberth, Greenland Institute of Natural Resources (GINR))
- JP: L. Pastene and K. Konishi, Institute of Cetacean Research (ICR)
- IS: S. Granquist and S.D. Halldórsson, Marine and Fresh Water Research Institute (MFRI)
- NO: M. Biuw, Institute of Marine Research (IMR) and C. Lydersen, Norwegian Polar Institute (NPI)
- FAJ: C. Yamada
- NAMMCO Secretariat: G. Desportes, N. El bani Altuna

The tag manufacturer is Wildlife Computers (WC).

2 PROJECT TIMELINE

The overall project development, since the cooperation agreement between NAMMCO member countries and Japan was finalised on 1 July 2021, is presented in Appendix 1.

In Phase 1 (2022-2023), the tag was developed by the manufacturer following the guidelines of the StG.

In Phase 2 (2023), different tag and launcher features were tested by different partners and the StG tested the MINTAG prototype V0b in the field, which included three variants: Minke, Fin V1, and Fin V2 (Figure 1). The first deployment of the first MINTAG prototypes, version V0b, on live fin and minke whales took place in the summer of 2023, from June to September 2023 in Japan, Greenland and Norway. The remaining tags were deployed in October 2023 by external collaborators in northern Norway.

As reported in the Progress Report March 2023-March 2024 to Council 31 (NAMMCO/31/15, 2024), limited results were achieved during the experimental tagging of summer 2023 in terms of tag retention and transmission, combined with partners' restricted field logistics. Therefore, the MINTAG Steering Group decided that the tag housing and electronics needed further modification, and that further field testing of the tag housing design, Phase 2b, should be conducted in 2024 before a large number of MINTAG tags should be purchased and deployed.

In Phase 2b (2024-2025), the project focused on testing the MINTAG V0c prototype, which exists in two versions differentiated by their retention systems: the cone model (V0c-C) and the petal model (V0c-P) (Figure 1). In 2026, the project will enter its final year, Phase 3, during which both V0c variants,

which will be commercially referred to as SPOT-415B and SPOT-415C, along with their two-battery homologues, SPOT-416A, SPOT-416B, and SPOT-416C, will be deployed (Figure 1)¹.

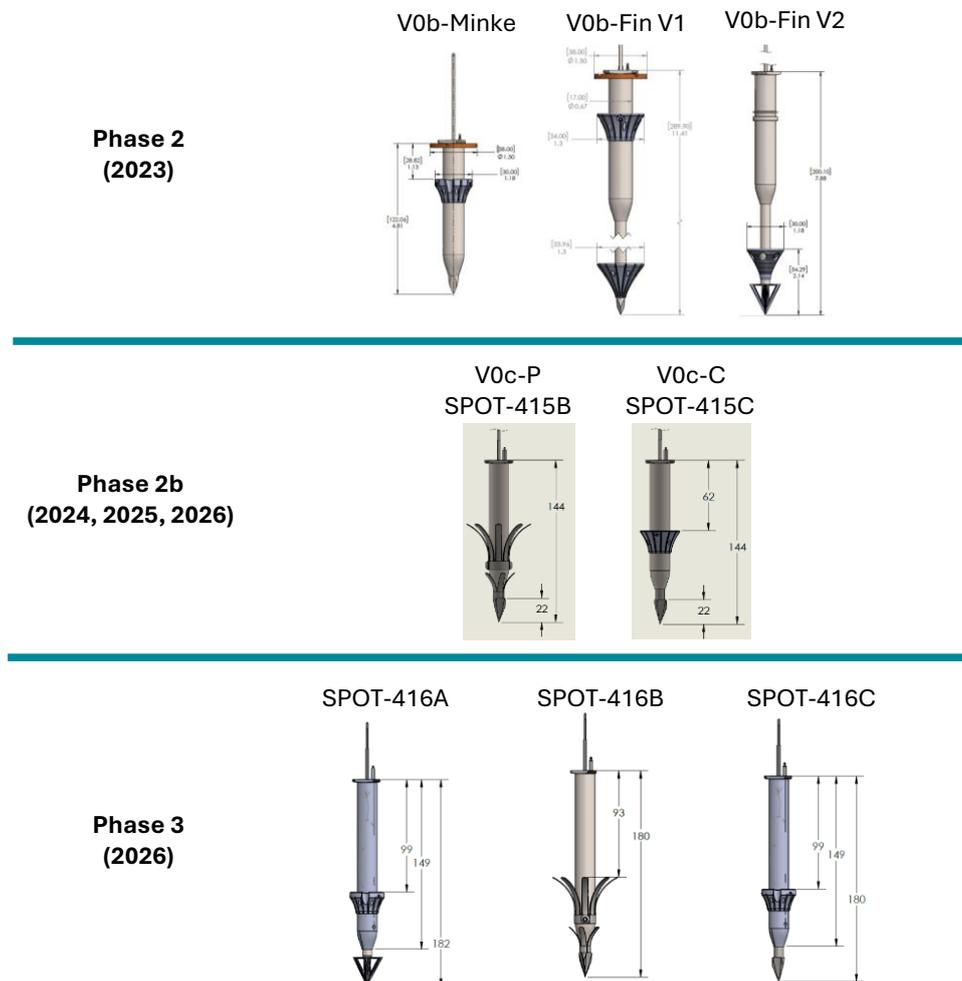


Figure 1. MINTAG prototypes (Illustrations by Wildlife Computers)

2.1 PROJECT DEVELOPMENT IN THE PERIOD MARCH 2025 – MARCH 2026

2.1.1 Schedule of Steering Group’s meetings and activities

Table 1 below lists the activities of the MINTAG StG (meetings and field work) for the period March 2025-March 2026 and includes an activity plan up to March 2027. The complete list of the StG activities since the project launch in August 2021 can be found in Appendix 1. Appendix 2 summarises the project reporting since the project was launched. Activities planned are further explained under items 4 and 5.

¹ In the original MINTAG proposal, the tags used in Phase 3, those intended for commercial release, were referred to as *V1 MINTAG tags*. In practice, this group now includes all V0c tags (V0c-P and V0c-C, corresponding to SPOT-415B and SPOT-415C, respectively) as well as the longer two-battery SPOT-416 tags, with their three variants (SPOT-416A, SPOT-416B, and SPOT-416C). For simplicity, we have retained the V0c/415/416 nomenclature in this report rather than the V1 terminology. Figure 1 provides a graphical overview of this classification.

Table 1. Summary of MINTAG activities for the period March 2025-March 2027. Planned activities are marked in grey.

Month Year	Activity	Participants	Description
January 25 – May 25	Tag development	WC	
April 25	StG 12 th meeting	StG / Sec	The StG discussed the acceptance document for Phase 2B and confirm the tagging plans for the summer/autumn field season [30.04.25, online]
May 25	StG meeting	StG / Sec	The StG met to discuss the desired features for the SPOT-416 tags and finalise the order of SPOT-415 (V0c) and SPOT-416 tags for the 2026 season [09.05.25, online, quick meeting]
Summer – Autumn 25	Tag deployment	StG	Deployment of 53 V0c tags [GL, IS, JP, NO]
September 25	StG 13 th meeting	StG / Sec	Each team presented the fieldwork carried out in summer 2025, and the StG discussed possible solutions to the problems encountered as well as how to manage the unused tags [19.09.25, online]
November 25	StG 14 th meeting	StG / Sec / WC	The StG and WC discussed what may have happened with the carriers during the summer of 2025 [05.11.25, online]
January 26	StG meeting	StG / Sec	The StG met to internally prepare the annual MINTAG meeting [12.01.26, online, quick meeting]
January 26	Carrier testing	StG / WC / Sec / DI	The StG, WC, and DanInject (DI) met to review and evaluate the 14 different carriers which had caused the loss of tags during the previous season. The group agreed on a single preferred carrier design, which will be produced and used in 2026 [17-18.01.26, Tórshavn, FO]
January 26	StG 15 th meeting	StG / WC / Sec	The StG and WC met to discuss the challenges of the current tag version and decide upon the tagging plans for the upcoming tagging season [18-19.01.26, Tórshavn, FO]
January 26 – April 26		StG / WC / O3ST Ltd	Preparation of the second tagging season, including production of tags and carriers
Spring 26			Writing and preparation of the first MINTAG manuscript for submission
Summer – Autumn 26		StG	Large-scale deployment
Autumn 26 – Winter 26-27	StG meeting(s)	StG / WC / Sec	Evaluation of large-scale tag deployment
January 27	StG meeting	StG / Sec / WC?	Project evaluation
February – March 27	Reporting to FAC and FAJ	Sec / StG	Project reporting
January 26 – April 26		StG / WC / O3ST Ltd	Preparation of the second tagging season, including production of tags and carriers
Spring 26			Writing and preparation of the first MINTAG manuscript for submission
Summer – Autumn 26		StG	Large-scale deployment
Autumn 26 – Winter 26-27	StG meeting(s)	StG / WC / Sec	Evaluation of large-scale tag deployment
January 27	StG meeting	StG / Sec / WC?	Project evaluation

2.2 CHANGES IN THE PROJECT SCHEDULE

The MINTAG project was launched on 4 August 2021, approximately nine months later than originally planned, resulting in a year-long delay to most activities, particularly tag development, fieldwork, and associated expenditures. After the low rate of successful V0 tag deployments in summer 2023, the StG concluded that further tag development was needed. It was agreed that summer 2024 would be dedicated to additional testing of prototype tags and design refinements before committing to a final design and scaling up deployments. This decision added another year of delay to the first large-scale deployment, shifting it from 2022 to 2025 and moving the end-of-project symposium or workshop from 2026 to 2027. The revised timeline (as of March 2025), along with the original schedule, was presented at Council 32 and is included in Appendix 3.

As of February 2026, the project is progressing according to the updated schedule (Appendix 3). However, the final workshop or symposium may be postponed from 2027 to 2028 if all tagging efforts are successful and tag durations approach one year. This would allow data from late 2026 and early 2027 deployments to be included in the final evaluation. Minor adjustments have also been made to the schedule to accommodate new tag and carrier production timelines, delivery dates, and tag duration expectations. Table 2 presents the updated timeline as of February 2026.

Table 2. Updated timeline of the MINTAG project per March 2026.

	2021		2022				2023				2024				2025				2026				2027				2028				2029+
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Steering Group																															
Launch, Tender																															
Choice Manufacturer / signature				May 22																											
Tag development WC																															
DVPT V0 + carrier																															
Shipment 10 V0 housing + carrier w.bs				Jul 22				Apr & Jun 23																							
DVPT V0b + carrier bs																															
Shipment 25 V0b housing + carrier w.bs								May 23																							
DVPT V0c + carrier																															
Shipment 30 V0c housing + carrier											May 24																				
DVPT long tags (SPOT-416)																															
Shipment all tags (SPOT-415, SPOT-416)																															
Carrier development O3ST Ltd																															
Carrier development and shipment																															
Testing: Consortium																															
Tests w. 10 dummy V0 tag																															
DVPT instrumentation protocol																															
Deploy 25 V0b										25																					
Deploy 13 V0c (SPOT-415)												13																			
Carrier testing																															
Deployment Tags: Consortium																															
Deploy V0c (SPOT-415)																															
Deploy long tags (SPOT-416)																															
Data collection: Consortium / ARGOS																															
Analysis: Consortium																															
Database (NAMMCO Sec)																															
Analysis																															
Writing																															
Dissemination: Consortium																															
Website (NAMMCO Sec)																															
Education material (NAMMCO Sec)																															
Publication(s)																															
Project Seminars & Workshop																															
Reporting SC/Council/FAJ																															

3 DEPLOYMENT OF THE V0C TAGS IN 2025

In 2025, the MINTAG project purchased 58 MINTAG V0c tags, in addition to 17 V0c tags left over from the 2024 field season that were not deployed by the Icelandic and Japanese teams. This brought the total number of tags available for deployment in 2025 to 75. The distribution between the teams of these tags depended on each team's opportunities to tag their target species (see Table 3).

Table 3. Tag distribution and abundance for the 2025 field season at the beginning of the season. The Japanese team kindly accepted five more tags at the end of the season to increase the chances of deploying tags. Abbreviations: BL= Bjarne (Ababsi) Lyberth, BM=Bjarni Mikkelsen, CL=Christian Lydersen, Luis Pastene, MPHJ=Mads Peter Heide-Jørgensen, MB=Martin Biuw, SG=Sandra Granquist, SD= Sverrir Daníel Halldórsson, TK=Taiki Katsumata.

	Total V0c tags available for deployment in 2025
Faroe Islands (BM)	5
Greenland (BL, MPHJ)	7
Iceland (SG, SDH)	9
Japan (TK, LP)	14
Norway (CL)	10
Norway (MB)	30

3.1 SUMMARY OF DEPLOYMENTS IN 2025

Below is a short summary of the field effort by each team.

3.1.1 Faroe Islands

The Faroese team, led by Bjarni Mikkelsen, did not attempt to tag pilot whales in early summer. When preparing for attempts later in the season, the team encountered an equipment issue, specifically a pressure loss in their ARTS system. Although this problem was resolved by mid-September, there was no tagging attempt throughout autumn. So, the Faroe Islands did not tag whales in 2025.

3.1.2 Greenland

The Greenlandic team made several attempts between July and October 2025 to tag whales, but with limited success. In July, fieldwork in Maniitsoq and Sisimiut yielded very few whale sightings, and local hunters also reported low numbers of minke whales in the area, meaning no tagging opportunities arose. In August, the team spent ten days in East Greenland, during which one tag was lost and one was successfully deployed on a sperm whale. A final effort in Qaqortoq in late September and early October involved firing four tags: two missed, one was lost, and one attached but too low on the whale's body. Three of these failed attempts were linked to malfunctioning carriers, either being too loose or rotating in the air.

3.1.3 Iceland

The Icelandic team, led by Sandra Granquist, made several attempts to tag whales in autumn 2025, but weather conditions limited their success. In northern Iceland in September, poor weather reduced opportunities, though one minke whale was tagged late in the month, although the tag was deployed slightly low on the body than intended, which may explain why no uplink was received, and another tag was fired but lost. Planned tagging efforts in October and November were also hindered by bad weather and poor visibility, preventing further deployments.

3.1.4 Japan

In Japan, the team led by Taiki Katsumata conducted three tagging periods in 2025. In May, they shot seven MINTAGs in the western North Pacific, successfully deploying five on fin whales while two were lost. In late October to November, they deployed five tags on sei whales and one on a fin whale, with two additional tags lost.

Following agreement with the StG, the team carried out a December survey to use remaining tags on humpback whales, though not a target species, to evaluate tag performance and gather potential insights into humpback whale migrations. The team shot five tags, with three of them being deployed on humpback whales and two getting lost.

3.1.5 Norway

The Norwegian MINTAG teams carried out several tagging efforts in 2025 with mixed results. In July, the team led by Martin Biuw deployed six V0c tags in Andefjorden, west of Andøya, tagging one minke whale and five pilot whales, although many tags were lost due to inconsistent carrier performance affecting flight characteristics. In August, a second team led by Christian Lydersen planned to deploy ten tags in Svalbard, but the field campaign was cancelled because of external issues related to gas delivery, and the tags were returned to Tromsø; some of these were later forwarded to Japan for use in the October and December deployments, and some back to Biuw's team.

After summer, further Norwegian tagging efforts were intended to be opportunistic, aligned with other field projects since no additional dedicated cruises were scheduled. These included the possibility of using tags during IMR's harbour seal fieldwork in September if minke whales were encountered, making tags available for deployments in the Kvænangen area by Audun Rikardsen's team in early November, and for Biuw's team to tag humpback and fin whales in the same region later in November and December. Rikardsen's team used four tags in early November, deploying three successfully on fin whales while one was lost. Biuw then deployed three more tags: one on a fin whale and four on humpback whales. One of these tags deployed on a fin whale is still sending data today, making it the longest known deployment of the season with 92 days of data as of 28 February 2026.

3.1.6 Collaborative projects

MINTAG V0c tags were also deployed through another collaborative project led by Alex Zerbin and Mads Peter Heide-Jørgensen. These collaborative efforts operate under an agreement with the StG that all results must be shared to support the ongoing improvement of MINTAG design and performance. Zerbin and Heide-Jørgensen deployed 5 V0c-P tags on sei whales in Argentina in May 2025.

3.2 SUCCESS OF TAGGING EFFORTS IN 2025

All in all, the StG used 53 tags out of the 75 available for tagging in 2025. Twenty-one tags (40% of the shot tags) were lost and 26 tags successfully deployed (50% of the shot tags), out of which 13 tags transmitted data for longer than 10 days (Figure 2). Five more tags were shot but did not send any data, despite hitting the whale, and another tag was used for testing in the field.

The longest tag deployment was PTT 187157, deployed on a fin whale in Norway in December, with a duration of 92 days and ended its transmission on 28 February 2026. In comparison, in 2024-2025 the longest tag lasted 231 days, with two additional tags exceeding 100 days.

The field effort in 2025 has for the first time included tagging of pilot whales with the MINTAGs. Two of those pilot whales travelled together from Vesterålen to Trøndelag and a third pilot whale tagged in the Lofoten area departed to the North Sea provide new insight to pilot whale biology in the East Atlantic. It clearly demonstrates the potential for remote deployment of MINTAGs on pilot whales. Also detailed tracks of fin whales in the archipelago of northern now processed with the new Kineis processing algorithm demonstrate the extreme precision of the positioning of the MINTAGs in a

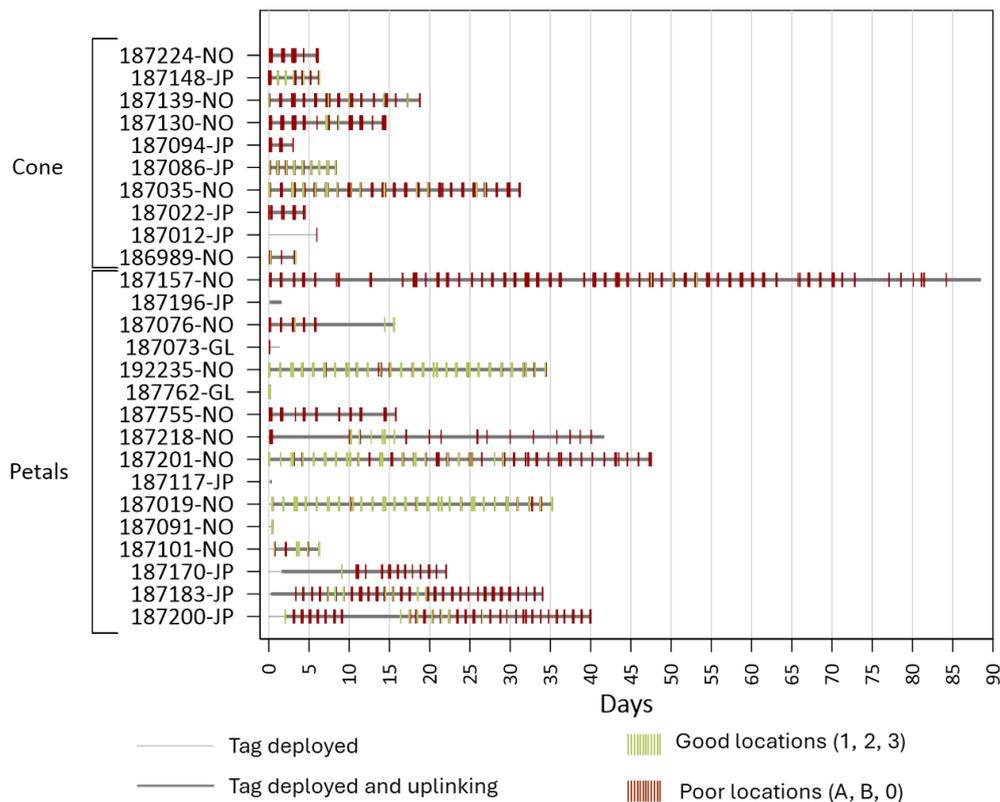


Figure 2. Duration of deployed V0c-P (petals) and V0c-C (cone) tags that sent data in 2025. On the Y axis: tag PTT and team that deployed it. Abbreviations: GL=Greenland, JP=Japan, NO=Norway. Figure updated: 24.02.2025

complicated coastal area. One fin whale tagged in Kvænangen in northern Norway has been tracked during its southbound migration in January and February to the British Isles.

The results in 2025 have therefore been less promising than expected, especially regarding the duration of transmission of the deployed tags but also the deployment success (number of tags deployed, number of tags properly implanted, number of tags lost). The main difficulties in 2025 stemmed from poor carrier performance. A new WC carrier developed at the StG's request proved unstable during at-sea trials, leading different teams to rely on at least six carrier types, none of which performed consistently during the 2025 field season. This variability made field results hard to compare. To resolve this, a joint testing session was held on 17–18 January 2026 during the meeting of the MINTAG StG in Tórshavn, where 14 carrier models were reviewed. A clear preferred model emerged: a 43-cm carbon-fibre carrier with straight flights produced by Biuw and IMR. The StG agreed that all teams will use this carrier moving forward.

Other issues included poor tag retention, likely due to carrier design rather than the design of the tags, improper tag storage affecting performance, and ongoing delays and inconsistencies in data entry. These issues were discussed and addressed during the meeting of the StG in January 2026.

As of 23 February 2026, a total of 22 tags had not yet been deployed: five tags remain in the Faroe Islands, seven in Iceland, four in Japan, and six in Norway.

4 PLANS FOR TAG DEPLOYMENT IN 2026

In 2026, the project will enter its final phase (Phase 3), marked by a large-scale deployment of the final MINTAG prototypes: SPOT-415 (including the two V0c tag versions) and the two-battery SPOT-416 tags (Figure 1). To support this effort, a total of 102 tags (i.e., 62 SPOT-415 and 40 SPOT-416) have been ordered and paid for, along with the necessary deployment equipment. In addition to these, the StG will also deploy the remaining 22 tags from the 2025 field season. This brings the total number of **tags**

available for 2026 to 124. Carriers will be developed by O3ST Ltd-Ocean Science Support Services & Technology. Tag and carrier distribution for 2026 can be found in Table 5.

Table 4. Agreed tag distribution for 2026. Abbreviations: BL= Bjarne (Ababsi) Lyberth, BM=Bjarni Mikkelsen, CL=Christian Lydersen, LP=Luis Pastene, MPHJ=Mads Peter Heide-Jørgensen, MB=Martin Biuw, SG=Sandra Granquist, SD= Sverrir Daniel Halldórsson, TK=Taiki Katsumata.

	V0c-Cone (SPOT-415C)		V0c-Petal (SPOT-415B)		SPOT-416A/C	SPOT-416B	Total amount of tags in 2026	Amount of carriers
	New tags	Remaining tags	New tags	Remaining tags				
Faroe Islands (BM)	5	1	5	4	0	0	15	3
Greenland (BL, MPHJ)	5	0	5	0	1	2	13	3
Iceland (SG, SDH)	5	4	5	3	0	0	17	3
Japan (TK, LP)	5	3	5	1	5	7	26	4
Norway (CL)	5	0	5	0	5	7	22	5
Norway (MB)	6	3	6	3	4	9	31	3

5 DISSEMINATION AND OUTREACH

5.1 MINTAG WEBSITE

The [MINTAG website](#), launched on 1 November 2022, provides comprehensive information about the project, including its background and objectives, target species, project partners and participating institutes, the StG and its members, and the project timeline. It also features regular updates on StG activities, such as meetings and field tests, and includes maps displaying the tracks of tagged whales (Figure 3). In addition, the website serves as an archive and data repository for the project.

During the 2024 and 2025 tagging seasons, the limited number of fieldwork and tagging data submissions from tagging teams led to a shift in communication priorities. As a result, project promotion increasingly focused on sharing the whale track data.

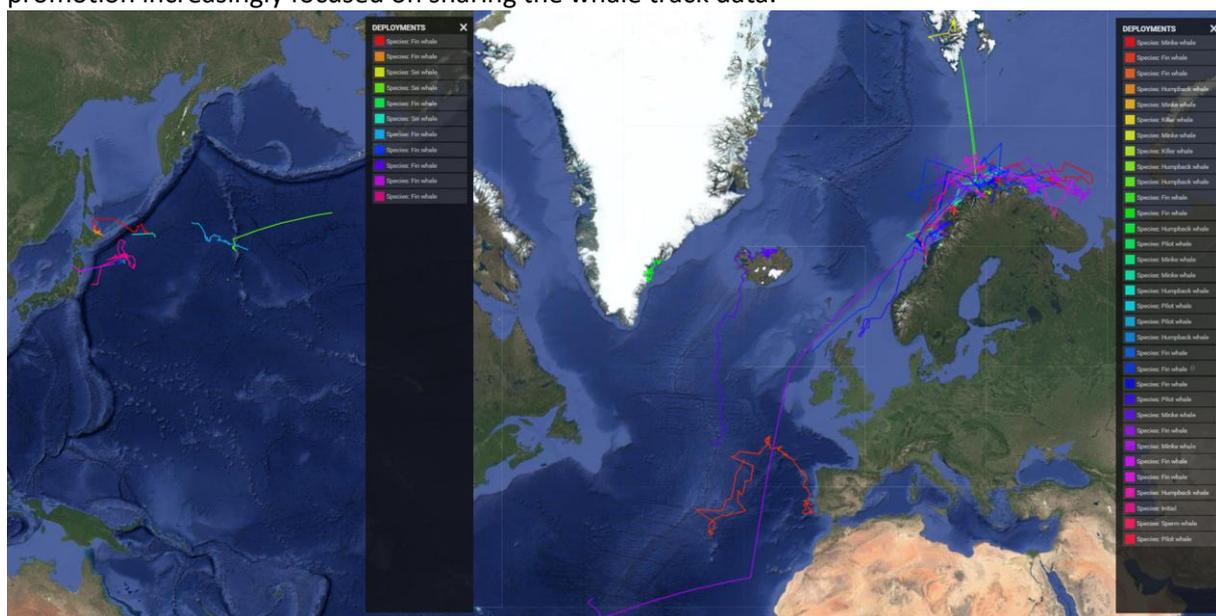


Figure 3. Tracks of tagged whales that successfully transmitted location data during 2023, 2024 and 2025. The map shows a total of 45 tagged whales. Updated: 25.02.2026

Since its launch on 1 November 2022, the website has attracted approximately 5,600 users. The number of active users has increased over time, with about 2,700 users in the period from February 2025 to February 2026, compared with around 1,700 during the same period the previous year. Most visitors access the site either through direct links to the MINTAG website or by searching for it on a search engine, suggesting that MINTAG is becoming more visible and better known within the community. Additional traffic comes through referrals (i.e., links shared on external websites) most likely from the NAMMCO website and from social media platforms such as Instagram, Facebook, and LinkedIn where updates are posted.

Although the primary target audience of the project is the countries of the MINTAG project partners, a sharp increase in visits from China and Singapore began in October 2025. These two countries now represent the largest share of total visits for the period February 2025–February 2026, followed by the United States, Japan, Norway, and Iceland (Figure 4). The most visited pages remain the Homepage and the “Follow the Whales” page, where the tracks of tagged whales are displayed (Figure 3).

A possible explanation for the sudden spike in traffic from China and Singapore is increased visibility through search engines, social media algorithms, or mentions on external sites unknown to the project team. Another possibility is automated or bot-generated traffic originating from these regions, as such activity is common in web analytics and may inflate user numbers without corresponding engagement.

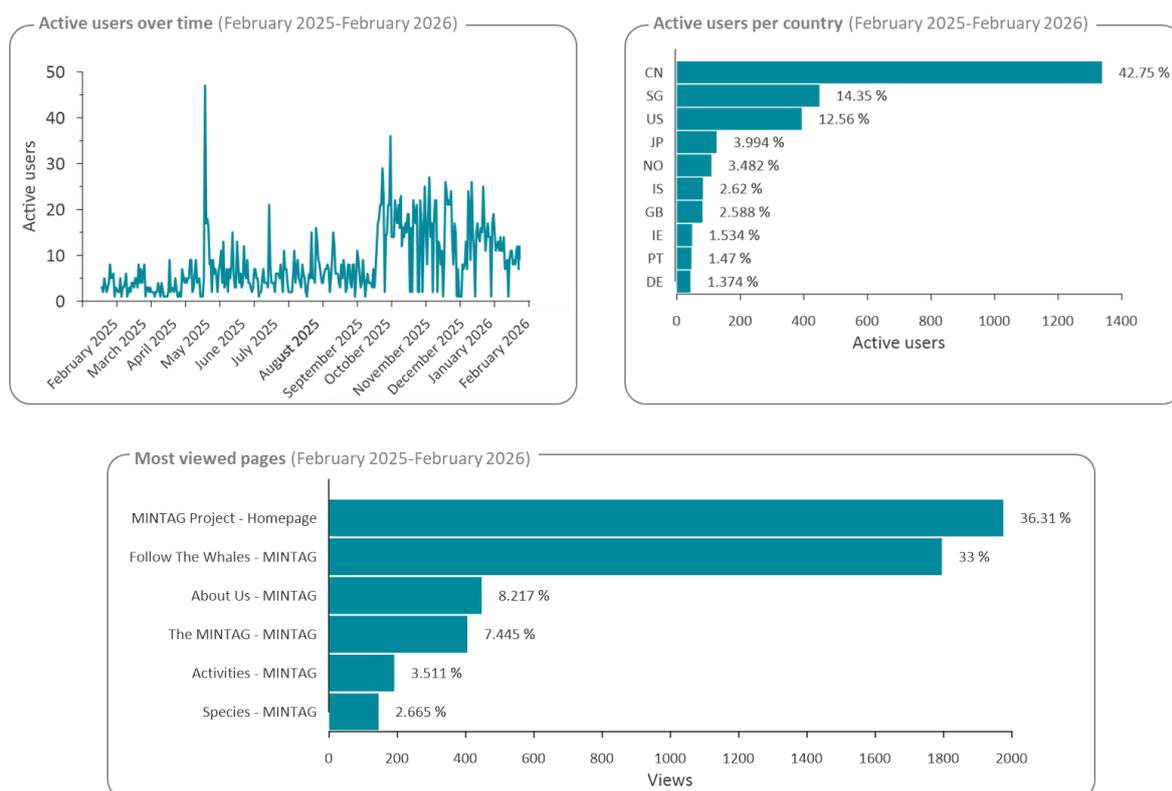


Figure 4. Overview of MINTAG Website audience demographics and page interests for the period from 19 February 2025 to 19 February 2026 (source: Google Analytics).

5.2 MINTAG WORKSHOP

The MINTAG StG plans to hold its final workshop in spring 2028, either back-to-back with another NAMMCO-related meeting, or as a standalone event. Organising it alongside the Council meeting would allow one or two days for scientific discussions, followed by a session aimed at a broader public and managers. This format would also offer an opportunity to further explore collaboration between Japan and NAMMCO, as well as additional potential partnerships.

The workshop will also address how best to follow up on the MINTAG project, including the possibility of developing a “MINTAG II” or another continuation initiative. This will be further discussed in January 2027, in the yearly StG’s meeting prior to the SC.

5.3 PLAN FOR SCIENTIFIC PUBLICATIONS AND PARTICIPATION AT CONFERENCES

The StG agreed on a two-step strategy for disseminating MINTAG results through scientific publications. The first step will be an initial paper outlining the MINTAG concept, the collaborative framework, preliminary findings, and the design and development process. This publication will serve to highlight the project’s potential, present early promising results, and ensure that MINTAG becomes visible and citable within the scientific community. NAMMCO Scientific Publications was identified as a suitable outlet for this paper, and Heide-Jørgensen will lead its preparation. The second step will be a comprehensive paper, or series of papers each presenting advances on learnings from each species, presenting the full project results once data collection and analyses have been completed. The latter is expected to be prepared and submitted in 2027-2028.

Last, the StG had initially considered presenting the project at the 26th Biennial Conference on the Biology of Marine Mammals, organised by the Society of Marine Mammalogy (SMM) and scheduled to take place in Puerto Rico in October 2026. The Steering Group has since decided not to pursue this option. MINTAG will continue to explore opportunities to present project developments and results at other relevant scientific conferences.

6 FINANCIAL UPDATE

6.1 PARTNER’S FINANCIAL DIRECT CONTRIBUTIONS

The overall initial budget of the MINTAG project and the repartition between partners, agreed upon in July 2021 before the launch of the Project, is provided in Table 6.

Table 6. Overall agreed budget of the MINTAG project and repartition between partners.

FUNDINGS	TOTAL COST	NO	FO	GL	IS	Commission	NAMMCO Total	JAPAN
Direct	10,315,000	2,737,500	159,000	484,000	50,000	755,000	4,185,500	6,129,500
%		26.5%	1.5%	4.7%	0.5%	7.3%	41%	59%
In kind	16,116,000	8,024,000	1,080,000	2,774,000	1,790,000	-	13,668,000	2,448,000
%		49.8%	6.7%	17.2%	11.1%	0.0%	85%	15%
Total	26,431,000	10,761,500	1,239,000	3,258,000	1,840,000	755,000	17,853,500	8,577,500
%		40.7%	4.7%	12.3%	7.0%	2.9%	68%	32%

The MINTAG project was launch on 4 August 2021, i.e., ca. 9-month later than described in the original project description, in turn this resulting in a year delay in most planned activities, tag development as well as field work. Consequently, the direct project expenses, i.e., tag development and field work, started in 2022 instead of 2021. Despite the delay in the project and therefore in incurring expenses, the five partners agreed that the transfer of the committed funding would follow the initial schedule. The protracted use of the funds would hopefully cover costs until the end of the project, now delayed to 2027 with maybe an End-of-Project workshop held in spring 2028.

Table 7 provides the detail of the partner funding by 1 March 2026. The Fishery Agency of Japan (FAJ) could not commit to the agreed funding for the financial year 2023-2024 and 2024-2025, because of financial uncertainties and unfavourable exchange rate. However, this is compensated by later fundings higher than the funding originally agreed upon.

Fund requisition for the financial year 2026-2027 will be sent in April to Japan.

Table 7. Funding committed and allocated by the 6 partners to the MINTAG project (in NOK)

PARTNERS' PLANNED and COMMITTED FUNDING 2021-2026 by 1 March 2026														
Countries	Total Funding Agreed	Funding 2021		Funding 2022		Funding 2023		Funding 2024		Funding 2025		Funding 2026		Total funding expected
		Agreed	Received	Agreed	Received	Agreed	Received	Agreed	Received	Agreed	Received	Agreed	Expected	
Faroe Islands	159,000	85,000	85,000	74,000	74,000	0	0	0	0	0	0	0	0	159,000
Greenland	484,000	40,000	137,950	234,000	134,850	70,000	69,950	70,000	69,950	70,000	70,000	0	0	482,700
Iceland (MRI)	50,000	0	0	50,000	49,950	0	0	0	0	0	0	0	0	49,950
Norway	2,737,500	595,000	595,000	910,000	910,000	700,000	700,000	332,500	332,500	150,000	150,000	50,000	50,000	2,737,500
Japan	6,129,500	545,000	545,000	1,813,000	1,813,000	1,963,000	1,430,408	1,645,500	923,095	113,000	839,344	50,000	578,653	6,129,500
NAMMCO direct	755,000	50,000	50,000	150,000	150,000	175,000	175,000	180,000	180,000	100,000	100,000	100,000	100,000	755,000
Total Direct	10,315,000	1,315,000	1,412,950	3,231,000	3,131,800	2,908,000	2,375,358	2,228,000	1,505,545	433,000	1,159,344	200,000	728,653	10,313,650
Secretariat in kind	0	-	54,815	-	115,215	-	-	-	75,120	-	94,200	-	150,000	489,350
Total	10,315,000	1,315,000	1,467,765	3,231,000	3,247,015	2,908,000	2,462,263	2,228,000	1,505,595	433,000		200,000		8,682,638

6.2 CHANGES IN PROJECT BUDGET

The original budget was modified during the project to accommodate new necessities and actual expenses (actual development costs, and tag prices) and more realistic expected cost (e.g., Argos cost), with the number of tags purchased being decreased. Initial budget and the revised budget are presented in Table 8.

Table 8. Initial and updated itemisation of expenses per 29 August 2025 (in NOK)

Initial Budget (06.07.21)		Revised Budget (29.08.25)	
Contributions		Contributions	
Norway	2,737,500	Norway	2,737,500
Greenland	484,000	Greenland	482,700
Iceland	50,000	Iceland	49,500
Faroes	159,000	Faroes	159,000
Japan	6,129,500	Japan	6,129,500
NAMMCO	755,000	NAMMCO	755,000
Total Contributions	10,315,000	Total Contributions	10,313,200
Expenses		Expenses	
Development costs	2,625,000	Development costs	3,149,942
Scientists to test sites and meetings with Wildlife Computers	150,000	Scientists to test sites and meetings with Wildlife Computers	200,000
Purchase of tags, carriers, and other accessories (include freight, customs, brokerage)	5,625,000	Purchase of tags, carriers, and other accessories (include freight, customs, brokerage)	4,407,000
ARTS guns	0.00	ARTS guns	64,000
Argos costs / CLS	705,000	Argos costs / CLS	1,288,649
Project administration	620,000	Project administration	600,000
Database and website	390,000	Database and website	350,000
Miscellaneous	0	Miscellaneous	55,000
End of project workshop	200,000	End of project workshop	200,000
Total Expenses	10,315,000	Total Expenses	10,314,591

6.3 COST AND EXPENSES FROM 2021 TO MARCH 2026

Table 9 presents the expenses incurred from 2022 to March 2026 (no expenses were incurred in 2021), and gives the expected expenses in 2026-2027, as well as the expected final status at the end of the 2027 after the End-of-Project Workshop. It is therefore expected as of today, 1 March 2026, that **remaining funds will be in the order of 472,000 NOK**. A decision should be taken by FAJ-FAC how to best use them. The MINTAG StG has proposed different possibilities.

Table 9. Expected contributions and predicted expenses at the end of the project in 2027 (in NOK).

Predicted contributions and expenses at end of 2026-2027 season (version 1 March 2026)			
Expected Contributions		Forecasted remaining funds at the end of 2027	
Norway	2,737,500	NOK 472,306	
Greenland	482,700		
Iceland	49,950		
Faroes	159,000		
Japan	6,129,500		
NAMMCO	755,000		
Total Contributions	10,313,650		
Expenses	Realised to 1 March 2026	Foreseen March 2026-2027	TOTAL
Development costs	-3,132,510	0	-3,132,510
Scientists to test sites and meetings with Wildlife Computers	-195,207	-5,000	-200,207
Purchase of tags, carriers, and other accessories (include freight, customs, brokerage)	-4,204,721	-181,200	-4,385,921
ARTS guns	-63,146	0	-63,146
Argos costs / QLS	-91,985	-885,658	-977,642
Project administration	-518,306	-102,000	-620,306
Database and website	-86,611	-120,000	-206,611
Miscellaneous	0	-55,000	-55,000
End of project workshop	0	-200,000	-200,000
Total Expenses	-8,292,486	-1,548,858	-9,841,344
In-kind contribution from NAMMCO	373,468	??	??
In-kind payment from ICR (import tax on the 2025 import)	14,121	??	??

The tags for 2026 have been ordered and pre-paid, but not sent to the different institutions. New carriers will be developed in Norway and need to be purchased. WC has promised not to bill the carriers that had not been sent already and will reimburse the cost, i.e., 400\$ per carrier and a total of 10 carriers not delivered yet corresponding to 38,000 NOK. The price of the new carriers is £325, i.e., 4200 NOK + transport import tax for some institutes

Freight and brokerage has been estimated to 55,000

The 10% import tax that the ICR may have to pay has been estimated to 55,000

7 CONCLUSION OF THE PROGRESS OF THE PROJECT

The MINTAG is an experimental project which is needed to develop the technology and its application on some of the most difficult whales to instrument. This provides an unprecedented opportunity for testing new techniques from anchors, spears, petals, stop plates, carriers, launcher pressure etc. in a multinational approach. Such an experimental approach also has its risks as some approaches will fail and will not provide the expected outcome. But with careful design and subsequent quantitative analyses of the results new knowledge will emerge that will benefit satellite tracking of large whales and pilot whales for years after the completion of the project.

The project will enter its final year in 2026 (Phase 3, the second year of large-scale deployments), but progress to date has been less positive than anticipated. Key challenges have included limited tag retention and short transmission durations, logistical difficulties that resulted in one partner not deploying any tags so far, and instability in the carriers provided by WC, that did not allow for stable deployments at sea, causing several tags lost due to poor flight performance.

The StG has worked intensively to address these technical difficulties, including conducting live testing sessions, with the aim of improving performance in Phase 3.

Despite the setbacks and acknowledging that MINTAG is an experimental project focused on tag development, with inherent trials and errors, the work has already produced some promising results. These include documented southward migration of pilot whales along the Norwegian coast, a more than 200-day track of a minke whale migrating from Norway to the Caribbean, and, a 92-day track of a fin whale travelling south from Norway.

A total of 124 tags is available for deployment in 2026. For this final large-scale effort to succeed, all teams and partner countries must commit sufficient time, personnel, and resources, as previously agreed, to support the required dedicated fieldwork. Alongside resolving the remaining technical challenges, the StG has agreed that all tagging teams must prepare contingency plans to ensure deployments can proceed even in unforeseen circumstances.

APPENDIX 1: OVERVIEW OF PROJECT ACTIVITIES SINCE JULY 2021

The table below provide an overview of the StG's meeting and other activities since the launching of the project in August 2021.

Month Year	Activity	Participants	Description
August 21	StG 1 (online)	FO, GL, IS, JP, NO, SEC	Presentation of participants, review of budget, review of draft tender material to potential manufacturers, review of 1 st project blog, agreement on autumn 2021 and winter 2022 project schedule. [04.08.2021]
November 21	StG 2 (online)	FO, GL, IS, JP, NO, SEC	Review of the manufacturers proposals, formulation of concerns and issues to be raised with the manufacturers. [24.11.2021]
December 21	PL / WC (physical)	Project Leader (PL) and WC CEO and engineers	Presentation of concerns and questions about the production and deliveries.
February 22	StG 3 (online)	FO, GL, IS, JP, NO	Comparison of the two manufacturers proposal and decision on the manufacturer. [22.02.2022]
March 22	Webinar kickoff by WC (online)	StG (FO, GL, IS, JP, NO, SEC) + WC CEO, scientists, and engineers	WC presentation of their project, incl. update upcoming opportunities for satellite communication, discussion on tag design. [24.03.2022]
June 22	Financial agreement (online)	NAMMCO GS & Deputy Secretary, WC CEO, PL	Discussing the terms of the financial agreement and MoU. [14.06.2022]
June 22	Financial agreement (online)	NAMMCO GS, WC CEO & one scientist	Continuing discussing the terms of the financial agreement and MoU. [17.06.2022]
June 22	MoU	NAMMCO GS, WC CEO	The MoU between NAMMCO and Wildlife Computers is signed by both parties. [22.06.2022]
July 22	Testing of dummy tag housing (IS)	PL, FO, NO, WC engineers	Testing of tag housing and launcher characteristics at the Icelandic whaling station on fin whale carcasses. [10-16.07.2022]
Summer - Fall 22	Website development	NAMMCO Sec	Development of the project website by the NAMMCO Secretariat.
September 22	StG 4 meeting (online)	StG (FO, GL, IS, JP, NO, FAJ, SEC)	Review of summer test shootings, tag design & meeting with WC, project website, plans & schedule for 2023, data depository, budget. [09.09.2022]
October 22	Tag Design WS/StG 4 (DK)	StG / WC / SEC	Refinement of the tag design, including carriers and biopsy samplers. [25-26.10.2022]
November 22	Launch of the MINTAG website	SEC	The website mintag-project.com was launched. [1.11.2022]
January 23	Testing of retention cones (FO)	FO	The objective of the test was to investigate how well different retention cones contribute to the anchoring of a minke whale tag in the whale body. [13.01.2023]
January 23	StG 5 meeting (DK, during SC29)	StG (FO, GL, IS, JP, NO, SEC)	Refinement of the tag design, development of tagging protocol for the deployment of the MINTAG V0b in spring-summer 2023. [24.01.2023, during SC29 meeting]
February 23	Testing of stop-plates and retention cones (JP)	JP	The objective of the test was to investigate how well the stop-plates and retention cones work. [09.02.2023]

February 23	Testing of ballistics (DK)	GL	The purpose was to test the ballistics of different tags. [28.02.2023]
March 23	Reporting to NAMMCO and JP	NAMMCO Sec and StG	Reporting to the Fisheries Agency of Japan and to the FAC and Council of NAMMCO (30 th Annual Meeting)
March 23	Ballistics tests	StG (GL)	Objective: to test the ballistics of the fin whale tag [28.03.23, DK]
June 23	Ballistics tests	StG (GL) / WC	Objective: to test to precision of the minke and fin whale tags during target shooting and to test the ballistics of a fin whale tag with only a 10 cm shaft. [28-29.06.23, DK]
June 23	Tag deployment	JP	Deployment of five fin whale tags on fin whales [05-15.06.23, southern Okhotsk Sea, JP] <ul style="list-style-type: none"> ▪ Lost after deployment: 0/5 Transmitted location: 2/5
August 23	Tag deployment	GL	Deployment of five fin whale tags on fin whales [08-17.08.23, East Greenland, GL] <ul style="list-style-type: none"> ▪ Lost after deployment: 1/5 Transmitted location: 1/5
August-September 23	Tag deployment	NO	Deployment of three minke whale tags (MWT) on minke whales and one fin whale tag (FWT) on a fin whale. [15.08-15.09.23, Svalbard, NO] <ul style="list-style-type: none"> ▪ Lost after deployment: 0/3 (MWT), 1/1 (FWT) Transmitted location: 2/3 (MWT), 0/1 (FWT)
August-September 23	Tag deployment	NO	Deployment of one minke tag on a fin whales [31.08-20.09.23, Barents Sea, NO] <ul style="list-style-type: none"> ▪ Lost after deployment: 0/1 Transmitted location: 1/1
September 23	Deployment tests	StG / WC	Objective: to test the deployment of dummy tags on fin whales at the whaling station in Iceland. [7-12.09.23, Hvalfjörður, IS]
October 23	StG 7 meeting to discuss the deployments during the summer of 2023	StG / Sec	Each partner presented the field efforts and the StG discussed potential solutions to the encountered problems. [10.10.23, online]
October 23	Tag deployment	NO (External Group)	Deployment of eight tags (unused tags) on killer and humpback whales [16-21.10.23, Skjervøy, NO] <ul style="list-style-type: none"> ▪ Lost after deployment: 2/6 (MWT), 0/2 (FWT) ▪ Transmitted location: 4/6 (MWT), 1/2 (FWT) Remaining tags after field season: two broken FWT
November 23	Summary of deployment in Skjervøy	StG / Sec / External Group	Audun Rikardsen (external group), who deployed the remaining tags in Skjervøy, presented the performance of the field efforts. [28.11.23, online]
November 23	Performance of the electronics of the tags	StG / WC / Sec	WC presented their experiments and results to test the tag performance. [28.11.23, online]
January 24	StG 8 meeting to decide on the new design and upcoming plans	StG / WC / Sec	The StG and WC met to decide upon the new tag design for the upcoming tagging season. [21-22.01.24, Hafnarfjörður, IS]

March 24	Reporting to NAMMCO and JP	NAMMCO Sec and StG	Reporting to the Fisheries Agency of Japan and to the FAC and Council of NAMMCO (31 st Annual Meeting)
January 24 – May 24	Tag development	WC	
April 24	StG meeting	StG / Sec	Objective: to discuss the acceptance document and MOU sent by WC, and confirm the tagging plans for the summer/autumn field season [17.04.24, online]
May-July 24	Tag deployment	NO	Deployment of eight V0c tags, on three minke whales, four fin whales, and one was lost, between May and July 2024. The deployments took place during two field campaigns: in the Lofoten Islands [May-June 2024], and in the Barents Sea [July 2024], as part of the Norwegian minke whale survey.
August-September 24	Tag deployment	IS	Deployment of one tag over two periods from mid-August to mid-September, for a total of 10 days. Bad weather significantly hampered the efforts. [15.08-15.09-24, Eyjafjörður, IS]
August-September 24	Tag deployment	JP	Deployments conducted as part of a sighting survey for cetacean abundance estimates in the western North Pacific. Three V0c tags were used: one was successfully deployed on a fin whale, another was lost, and the third was a missed shot but was recovered by the tagging team. [02.08-30.09.24, Northwest Pacific Ocean]
October 24	StG meeting	StG / Sec	Each partner presented the field efforts and the StG discussed potential solutions to the encountered problems. [24.10.24, online]
November 24	Tag deployment	NO	Deployment of two remaining V0c tags on two fin whales [04.11.24, Skjervøy area, NO].
December 24-March 25	Tag deployment	JP	Deployment of eight remaining tags on the journey from Japan to Antarctica and back to Japan. The trial on the outbound journey (December 2024) was unsuccessful due to the impossibility of finding any baleen whales during the time available for tagging. In the inbound journey there will be another chance to deploy the tags (March 2024).
January 25	StG 11 th meeting	StG / WC / Sec / A. Zerbini	The StG, WC and external collaborators (A. Zerbini) met to discuss the challenges of the current tag version and decide upon the tagging plans for the upcoming tagging season. [19-20.01.25, Tromsø, NO]
January-May 25	Tag development	WC	
February 25	Reporting to FAC and FAJ	NAMMCO Sec / StG	
January 25 – May 25	Tag development	WC	
April 25	StG 12 th meeting	StG / Sec	The StG discussed the acceptance document for Phase 2B and confirm the tagging plans for the summer/autumn field season [30.04.25, online]
May 25	StG meeting	StG / Sec	The StG met to discuss the desired features for the SPOT-416 tags and finalise the order of SPOT-415 and SPOT-416 tags for the 2026 season [09.05.25, online, quick meeting]
Summer – Autumn 25	Tag deployment	StG	Deployment of 53 V0c tags [GL, IS, JP, NO]
September 25	StG 13 th meeting	StG / Sec	Each team presented the fieldwork carried out in summer 2025, and the StG discussed possible

			solutions to the problems encountered as well as how to manage the unused tags [19.09.25, online]
November 25	StG 14 th meeting	StG / Sec / WC	The StG and WC discussed what may have happened with the carriers during the summer of 2025 [05.11.25, online]
January 26	StG meeting	StG / Sec	The StG met to internally prepare the annual MINTAG meeting [12.01.26, online, quick meeting]
January 26	Carrier testing	StG / WC / Sec / DI	The StG, WC, and DanInject (DI) met to review and evaluate the 14 different carriers which had caused the loss of tags during the previous season. The group agreed on a single preferred carrier design, which will be produced and used in 2026 [17-18.01.26, Tórshavn, FO]
January 26	StG 15 th meeting	StG / WC / Sec	The StG and WC met to discuss the challenges of the current tag version and decide upon the tagging plans for the upcoming tagging season [18-19.01.26, Tórshavn, FO]

APPENDIX 2: PROJECT REPORTING SINCE THE PROJECT WAS LAUNCHED

Besides the report of the Steering Group meetings, several reports have been finalised by the Secretariat and the StG. They are listed below:

- Annual MINTAG report to the NAMMCO Scientific Committee 28 (January 2022, SC/28/21)
- Progress Report August 2021-June 2022, including Schedule of activities April 2022 – March 2023 (July 2022) communicated to FAJ
- MINTAG Report 1 – Test of dummy tags on fin whale carcasses in Iceland, 10-16 July 2022 (July 2022)
- Update on the MINTAG Project – Year 1 /August 2021-June 2022, also presented to Council 29 as document NAMMCO/29/14 (September 2022) and circulated to FAJ
- MINTAG Report – Tag design meeting in Copenhagen 25-26 October 2022, also presented to SC 29 (January 2023, Doc SC/29/17) and communicated to FAJ
- Annual MINTAG report to the NAMMCO Scientific Committee 29 (January 2023, SC/29/16)
- Progress Report March 2022 – March 2023, with activity plan up to March 2024, also presented Council 30 (Doc NAMMCO/30/15, March 2023) and communicated to the FAJ
- MINTAG Report 8 – Test of dummy tags on fin whale carcasses in Iceland, 7-12 September 2023 (September 2023)
- Annual MINTAG report to the NAMMCO Scientific Committee 30 (January 2024, SC/30/15)
- Progress Report March 2023 – March 2024, with activity plan up to March 2025, both presented to Council 31 as document NAMMCO/31/15 (March 2024) and communicated to the FAJ
- Annual MINTAG report to the NAMMCO Scientific Committee 31 (January 2025, SC/31/07)
- Progress Report March 2024 – March 2025, with activity plan up to March 2026, both presented to Council 32 as document NAMMCO/32/15 (March 2025) and communicated to the FAJ
- Annual MINTAG report to the NAMMCO Scientific Committee 32 (January 2026, SC/32/10)
- **Present Report:** Progress Report March 2025 – March 2026, with activity plan up to March 2026, both presented to Council 33 as document NAMMCO/33/15 (March 2027) and communicated to the FAJ

APPENDIX 3: MINTAG PLAN AS PER MARCH 2025

Note that this table is now outdated and that an updated version is presented under item 2.2 of this report.

	2021		2022				2023				2024				2025				2026				2027				2028+
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Steering Group																											
Launch, Tender																											
Choice Manufacturer / signature				May 22																							
Tag development WLC																											
DVPT V0 + carrier																											
Shipment 10 V0 housing + carrier w.bs					Jul 22				Apr & Jun 23																		
DVPT V0b + carrier bs																											
Shipment 25 V0b housing + carrier w.bs									May 23																		
DVPT V0c + carrier																											
Shipment 30 V0c housing + carrier												May 24															
Shipment ca.35 V0c housing + carrier																	May 25										
Shipment ca. 35 AT-SPOT housing + carrier																		Sept 25									
DVPT V1 + carrier bs																											
Shipment ca. 80 V1 housing + carrier w.bs																										Feb 26	
Testing: Consortium																											
Tests w. 10 dummy V0 tag																											
DVPT instrumentation protocol																											
Deploy 25 V0b											25																
Deploy 13 V0c													13														
Deployment Tags: Consortium																											
Deploy 52 V0c																	52										
Deploy 35 AT-SPOT																		35									
Deploy ca. 80 V1																									ca. 80		
Data collection: Consortium / ARGOS																											
25 V0b - Argos time																											
30 V0c - Argos time																											
35 V0c - Argos time																											
35 AT-SPOT - Argos time																											
ca. 80 V1 - Argos time																											
Analysis: Consortium																											
Database (NAMMCO SEC)																											
Analysis																											
Writing																											
Dissemination: Consortium																											
Website (NAMMCO SEC)																											
Education material (NAMMCO SEC)																											
Workshop at SMM26																											
Publication																											
Project Seminars & Workshop																											
Reporting SC/Council/FAJ																											