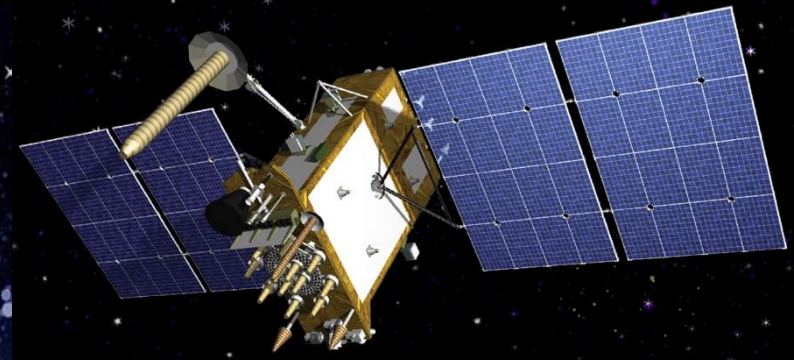
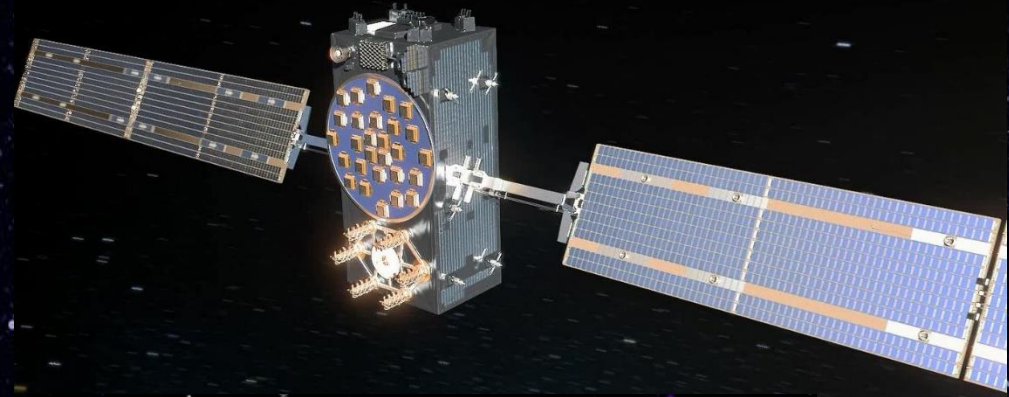


# Beacon Manufacturers Workshop

10 May 2024



## PRELIMINARY RESULTS OF THE 2024 SURVEY OF BEACON MANUFACTURERS

Andryey Zhitenev  
Cospas-Sarsat Secretariat

# Preliminary Results of the 2024 Survey of Beacon Manufacturers

# Beacon Manufacturer Survey Objectives

- Collect from beacon manufacturers production figures for previous to understand industry status and market trends
- For frequency channel management purposes, such as planning frequency channel opening and closure
- Collect information for the evaluation of current beacon population and as an input for the model to estimate forecast for future years
- Collect information on planned type-approval activity for planning the Secretariat work

## 2024 Survey

- Questions about production volumes and plans for :
  - beacons operating in different frequency channels,
  - location protocol/non-location protocol beacons,
  - beacons of different type (EPIRBs, PLBs, ELTs )
  - ELT categories: -AF, -AP, -AD, -S,
  - EPIRB categories: Float Free, Non-Float Free, with VDR.
  
- Questions about production volumes in 2023 and plans for 2024 for the new beacon types (SGBs and ELT(DT)s, as well as RLS-enabled beacons) ;
  
- Questions about the anticipated in-service life of EPIRBs, ELTs and PLBs.

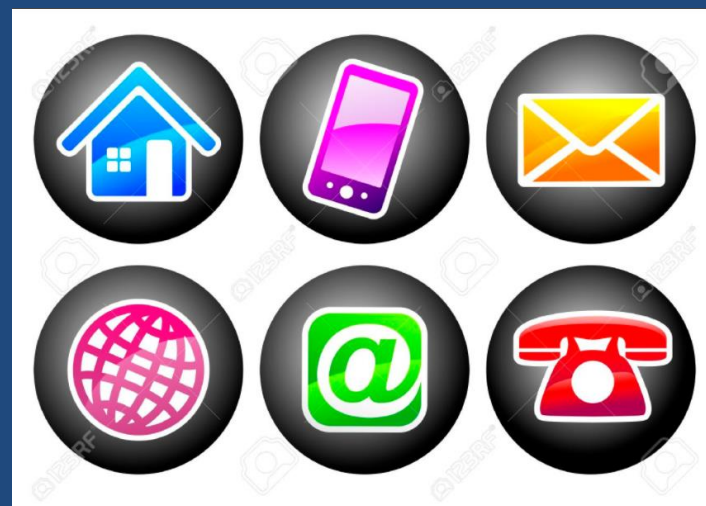
# 2024 Survey

- conducted by the Cospas-Sarsat Secretariat since 1991, annually
- **41** beacon manufacturers participated in the 2024 survey
- geographical distribution of participating manufacturers:
  - Europe: **32%**
  - North America: **32%**
  - Rest of the World: **36%**



# 2024 Survey Submission Methods Statistics

- online web form : 37%
- email : 63%



# 2023 Survey Web-Based Forms

<https://www.cospas-sarsat.int/en/documents-pro/documents/beacon-manufacturer-survey-2024>



The screenshot shows the COSPAS-SARSAT website interface. At the top left, the logo reads "COSPAS-SARSAT.INT PRO" with the tagline "INTERNATIONAL SATELLITE SYSTEM FOR SEARCH AND RESCUE" and "406<sup>TH</sup> DISTRESS ALERTING SERVICE". To the right is the "COSPAS-SARSAT" logo and a Facebook icon. Further right are language options for "Français" and "Русский", and a "COSPAS-SARSAT REGULAR" button. A red navigation bar contains the following menu items: "SYSTEM", "BEACONS", "DOCUMENTS", "MEETINGS", and "CONTACT LISTS", each with a dropdown arrow. Below the navigation bar, a text block states: "If you require a PDF version of this form, please find it here: [https://www.cospas-sarsat.int/images/cospas\\_sarsat/pdf\\_uploads/2024\\_B-mans\\_Survey\\_Form.pdf](https://www.cospas-sarsat.int/images/cospas_sarsat/pdf_uploads/2024_B-mans_Survey_Form.pdf)". Below this text is a large, empty light gray rectangular area. At the bottom of the page, the title "2024 Survey of Cospas-Sarsat 406 MHz Beacon Manufacturers" is displayed.

in 2023 ...





## 2023 Survey Highlights

# 196,125

beacons were produced Worldwide in 2023,  
9% decrease in comparison with 2022

# 2024 Survey Highlights



Annual production	Count of manufacturers in 2022	% to Total in 2022	Count of manufacturers in 2023	% to Total in 2023
"0" production	5	12.2%	6	14.6%
1-499 units	19	40.4%	18	43.9%
500-999 units	4	8.5%	1	2.4%
1000-5000 units	5	10.6%	8	19.5%
> 5000 units	8	17.0%	8	19.5%
<b>TOTAL</b>	<b>41</b>		<b>41</b>	

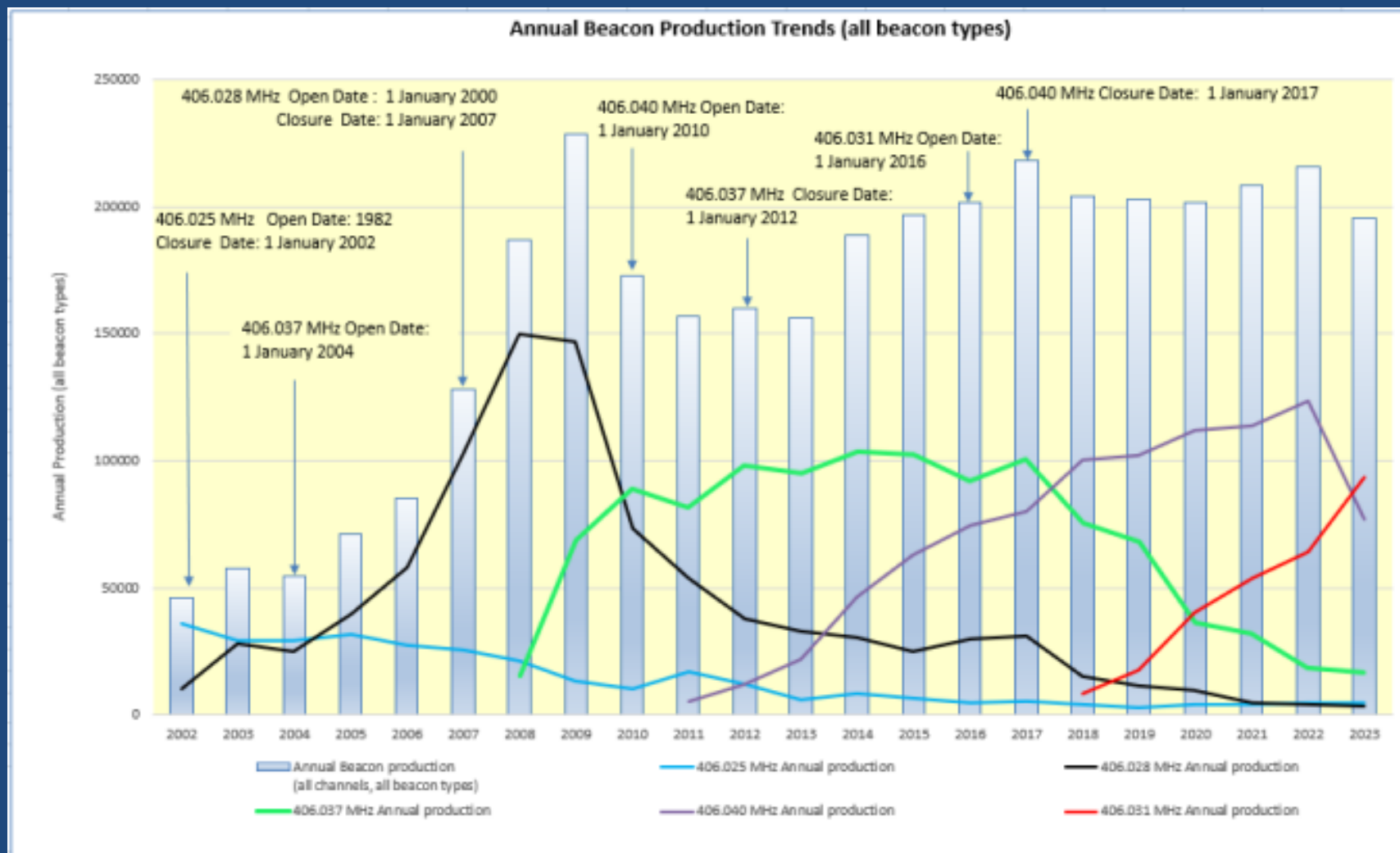
17 of 41 manufacturers reported 2023 production increase in comparison with 2022, 18 of responded beacon manufacturers reported production decrease, and 6 manufacturers reported zero production in 2023.



## 2023 Annual Production Decrease

- 2023 annual production (196,125) was lower than in 2022 (215,538) by 9% , that was driven by :
  - decrease of production of EPIRBs (15.5% ) and PLBs (8.6%)
  - increase of annual ELT production by 13%.
- From individual discussions with some beacon manufacturers, the 2023 decrease of production was due to a number of factors, including:
  - global economy situation that also affected beacon industry,
  - expiration and cycling of some government programmes,
  - complications related to introduction of international regulations,
  - beacon components supply problems.

# 2024 Survey Results: Beacons Production trends (By Frequency Channel)





# 2024 Survey Results

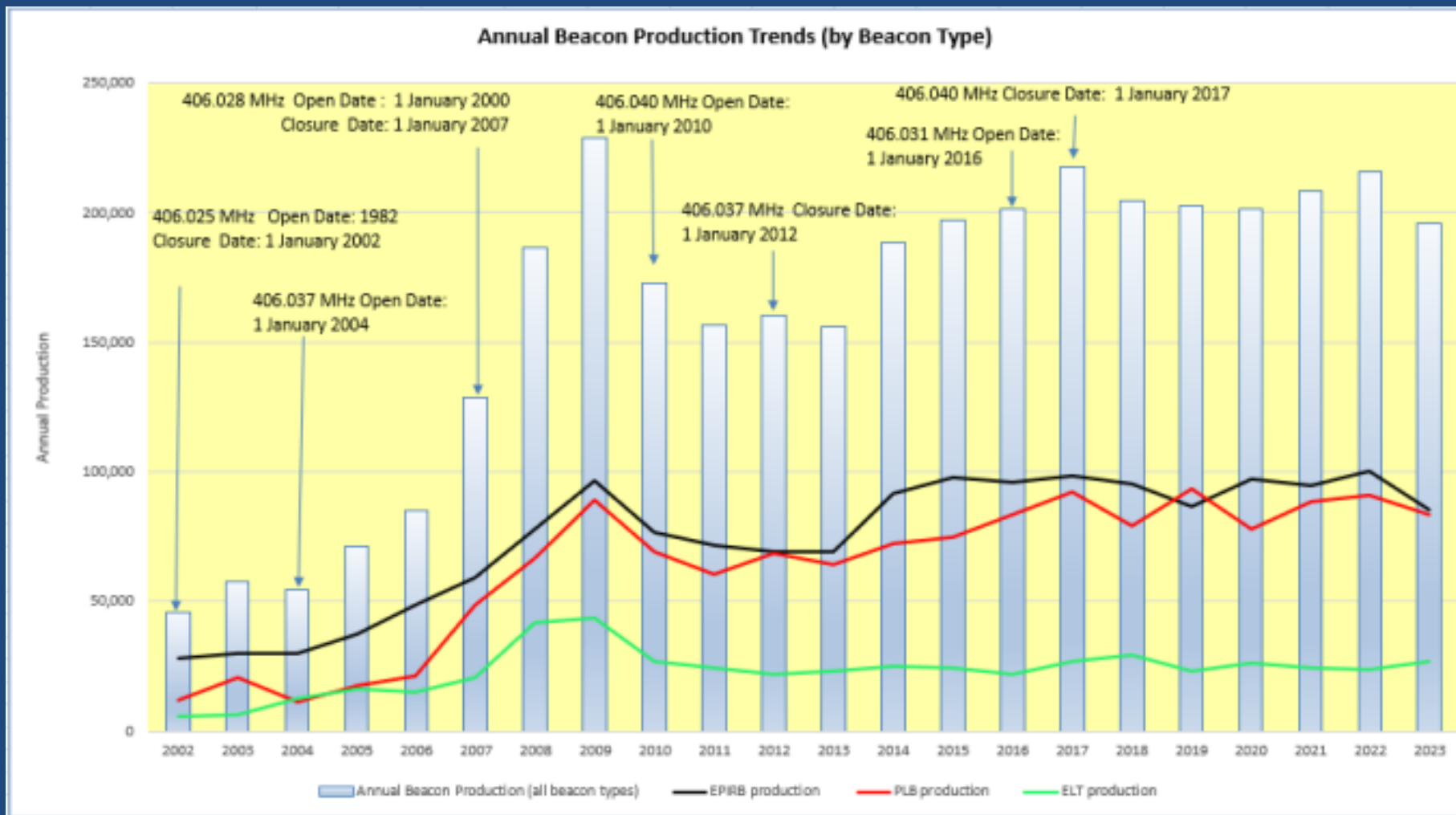
## Detailed Distribution of 2023 Production

Beacon type	2023	% of Total Beacon Type	% of Global Production Total	% of Global Production Change since 2022
	Global Production, units			
Total ELTs	27,105		13.8%	13.4%
Total EPIRBs, including:	85,208		43.4%	-15.1%
- EPIRB Float Free and EPIRB VDR	42,122	49.4%	21.5%	-5.5%
- EPIRB Non-Float Free	43,086	50.6%	22.0%	-22.8%
Total PLBs	83,412		42.5%	-8.6%
Total of Global Production for all beacon types	196,125		100.0%	-9.0%

Beacon manufacturers indicated that in 2023 they produced over 47,000 first-generation RLS-enabled beacons (about 24% of all beacons produced in 2023) , a few hundred first-generation ELT(DT)s and a few hundred SGBs.

# 2024 Survey Results

## Beacon Production Trends (by beacon type)



## Location Protocol Beacons in 2023

Beacon Type	Production of LP-beacons, units	Ratio of LP-beacons to all beacons produced, %	Ratio to all LP-beacons, %
EPIRBs	52,399	61.5%	36.6%
PLBs	67,693	80.8%	47.3%
ELTs	22,896	84.5%	16.0%
All 406 MHz Beacon Types	142,988	72.9%	100.0%

An estimated global population of about **1,610,000** LP beacons were in use at the end of 2023, which corresponds to 79 % of all beacons deployed worldwide

(78% - in 2022, 76% - in 2021, 73% - in 2020, 70% - in 2019, 63% - in 2018, 59% - in 2017)

# Estimated 2023 Global Beacon Population

- The estimated about **2,046,000** beacons were in use at the end of **2023** (using the assumed-replacement-period estimation method)
- This estimate is based on a 10-year in-service life assumption for all beacon types
- Annual change of the estimated Global beacon population: **+2%**

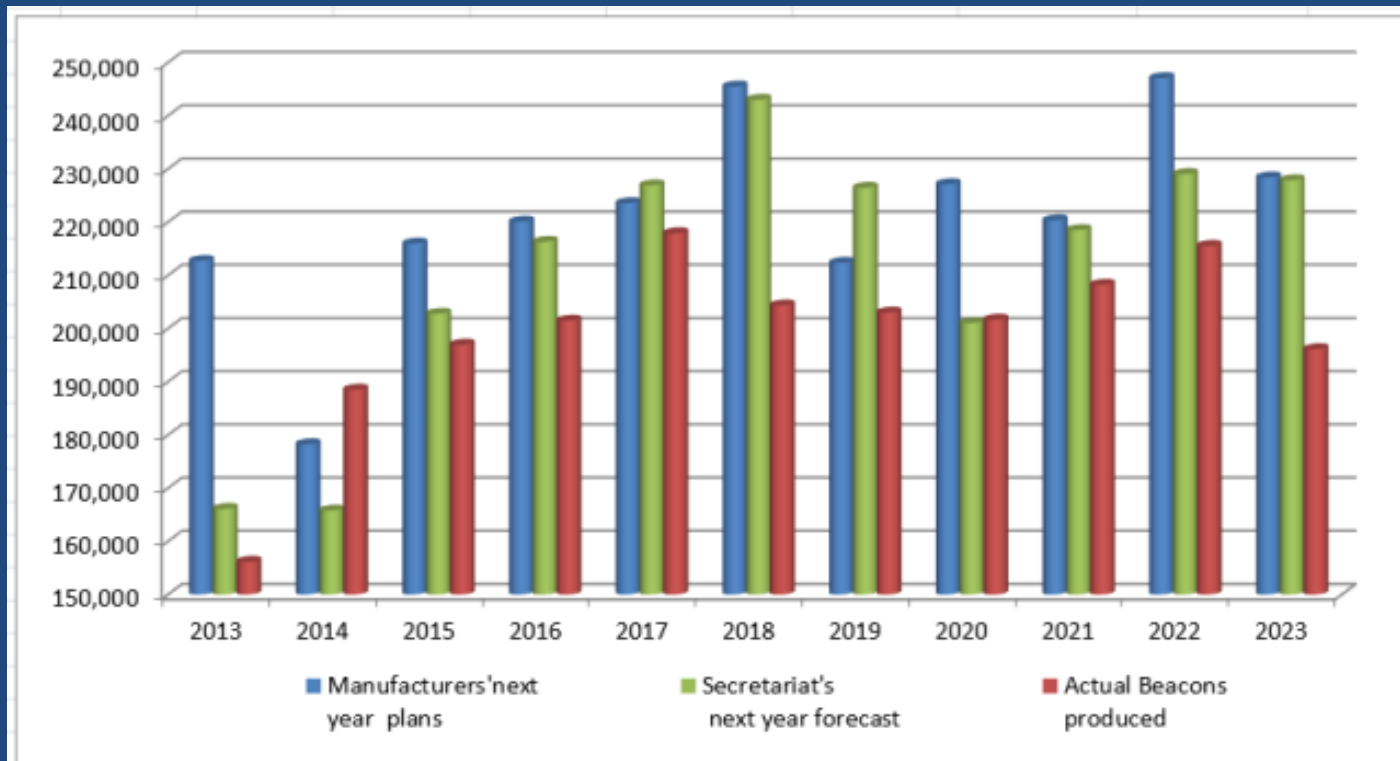


# Beacon Manufacturers' Plans for 2024

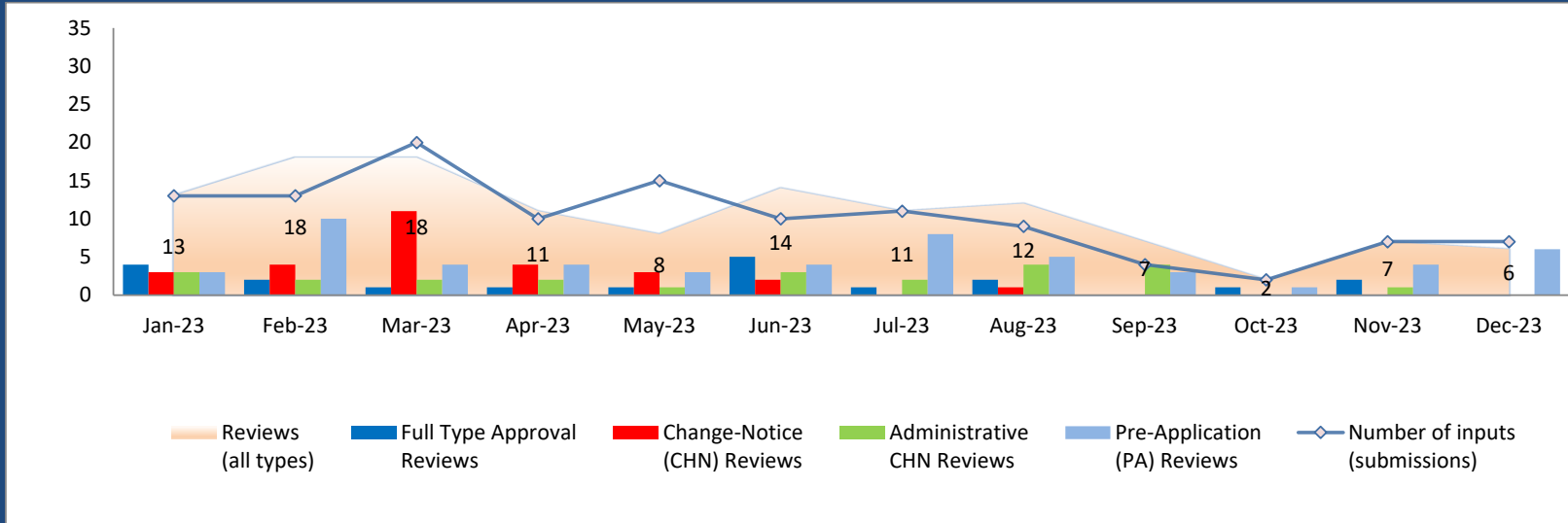
- In 2024, beacon manufacturers plan to produce over **230,000** new beacons (+20% over the actual 2023 production volume), including:
  - 100,000 new EPIRBs,
  - 32,000 new ELTs,
  - 98,000 new PLBs.
- Beacon manufacturers 2024 plans to produce:
  - over 64,000 FGB RLS-enabled beacons (or about 28 % of all beacons),
  - about 1,400 FGB ELT(DT)s, and
  - about 8,000 SGBs ( about 3.5% of planned for production beacons) of which few hundred beacons are SGB ELT(DT)s.
- The estimated global population of 406 MHz beacons at the end of 2024 could reach **2,086,000 units** (using the assumed 10-year in-service-life period).

# Comparison of Beacon Manufacturers' Plans and the Secretariat's Forecast vs Actual Production

Year	Manufacturers' Plans for 2023	Secretariat's Forecast for 2023	Actual Production in 2023	Discrepancy of Manufacturers' Plans vs Actual production , %	Discrepancy of the Secretariat's Forecast vs Actual production , %
2023	228,406	227,866	196,125	16.50%	16.20%



# Type Approval Activity in 2023



In 2023, the Secretariat has conducted 127 reviews of type-approval submissions, including:

- 20 submission for full type approvals,
- 28 change notices (“technical”) submissions;
- 24 submissions for administrative change notices,
- 55 previews of re-application submissions .

# Type Approval Applications - 2022 and 2023 Statistics

Types of Type-Approval Applications	Type-Approval Activity in 2022			Type-Approval Activity in 2023		
	New Applications	Number of Conducted Reviews	Median Response Time, Days	New Applications	Number of Conducted Reviews	Median Response Time, Days
Full type-approval	11	51	29	6	20	29
Technical Change notices (CHNs)	5	14	31	4	28	13
Administrative CHNs	14	18	27	14	23	28
Pre-application	28	55	17	21	56	22
<b>All types of applications</b>	<b>58</b>	<b>138</b>	<b>26</b>	<b>45</b>	<b>127</b>	<b>22</b>



# Type Approval Applications - 2023 Examples and Issues

## □ Administrative Change Notices (ADM-CHN)

- No type-approval testing is required
- Type-approval by the Parties is not needed
- Requests for additional TAC numbers
- Change of beacon manufacturer name due to corporate changes
- Addition of alternative beacon model names

## □ Issues (examples):

- Unclarity of intend
- Lack of supporting documentation
- Inconsistency of information in documentation

# Type Approval Applications - 2023 Examples and Issues

## □ Technical Change Notices (CHNs) and Full TA applications

- Type-approval testing is required
- Type-approval by the Parties is needed for Full TA applications and in some CHN cases (e.g., with non-compliances)
- Examples of standard changes: alternative GNSS receiver, alternative battery, addition of: antennas, message protocols, AIS or RLS;
- Examples of non-standard changes: replacement of obsolete parts (power amplifier), changes to GNSS receiver timing, not-documented operational configuration

# Type Approval Applications - 2023 Statistics, Examples and Issues

- ❑ **Issues related to Technical Change Notices (CHNs) and Full TA applications:**
  - Non-compliances revealed and modifications during type-approval testing and review
  - Incomplete applications, missing or inconsistent documents
  - Not documented beacon design specifics and beacon features
  - Deviations from the standard test procedures and reporting requirements
  
- ❑ **Issues related to type approval standards and TA review procedures**
  - Ambiguity of and a need for clarifications of some requirements
  - Lack of test procedures and methodologies (e.g. , test requirements for battery current measurement)
  - Lack of standardised forms for reporting some test results

# Importance of Pre-Application Consultations

- Objectives of pre-application/pre-test consultations:
  - familiarization with the beacon design and features, intended operating scenarios, modes of operation;
  - dealing with non-compliances observed during TA and other testing;
  - dealing with beacon modifications;
  - definition of the applicable standards;
  - pre-application check of documentation and technical data items;
  - to define a need for and develop case-specific test setup/procedures;
  - to define scope of case-specific type-approval testing.



**For more information...**

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