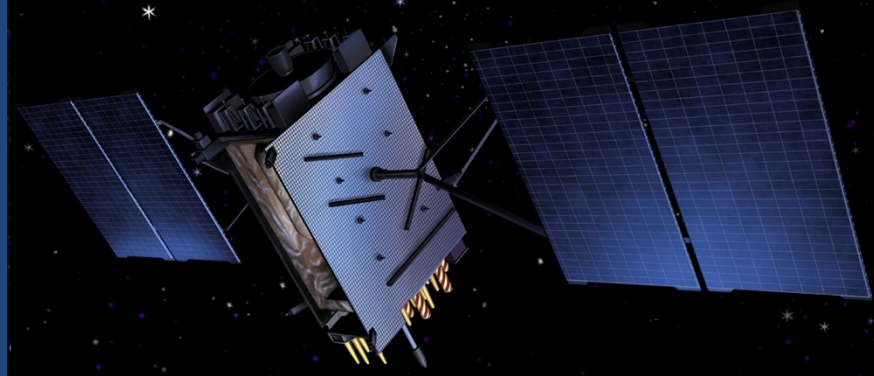
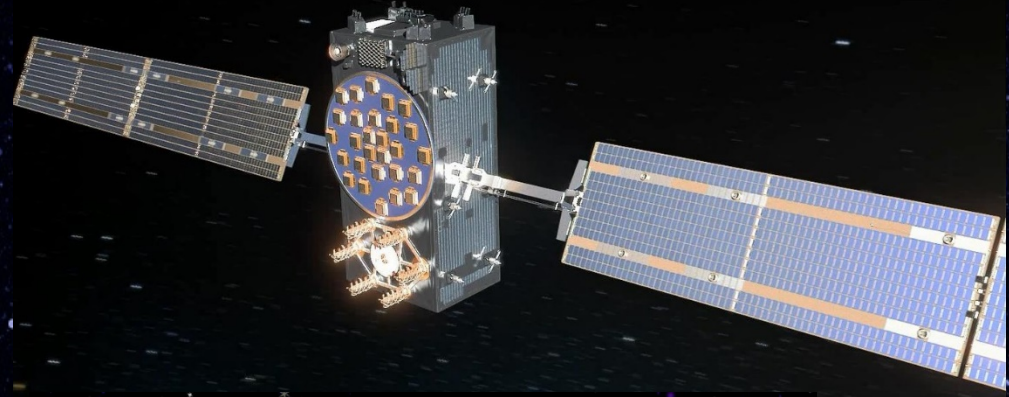


Beacon Manufacturers Workshop 7 - 8 October 2020



PRELIMINARY RESULTS OF THE 2020 BEACON MANUFACTURERS SURVEY

Andrey Zhitenev
Cospas-Sarsat Secretariat

Preliminary Results of the 2020 Survey of Beacon Manufacturers

2020 Survey - Participants

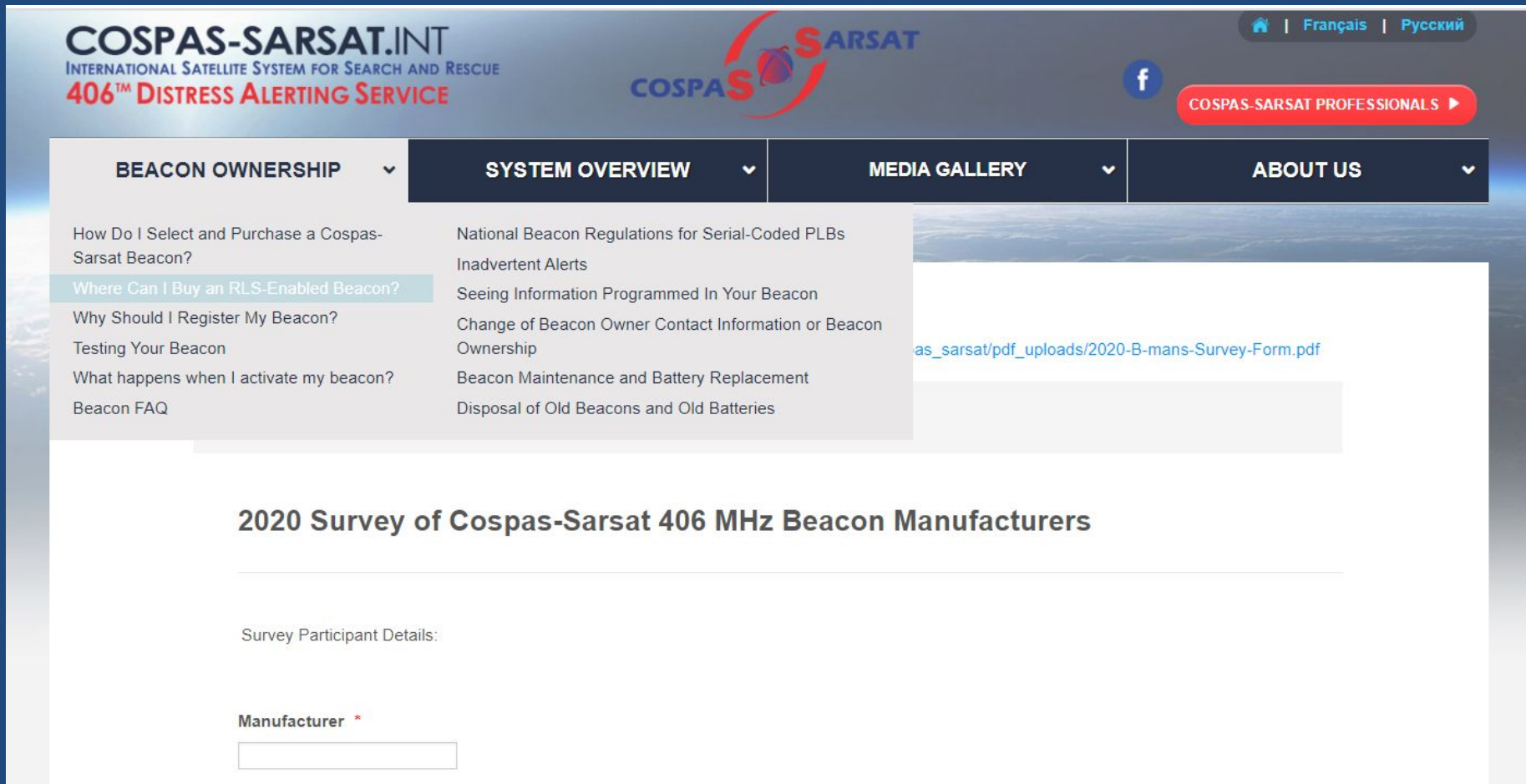
- conducted by the Cospas-Sarsat Secretariat since 1991, annually
- **41** beacon manufacturers participated in the survey
- geographical distribution of participating manufacturers:
 - Europe: **39%**
 - North America: **29%**
 - Rest of the World: **32%**

Extended 2020 Survey Questionnaire

- Better structured and more detailed survey form:
 - detailed beacon types and categories
 - ELT: (AF) / (AD) / (AP) / (S), ELT(DT)
 - EPIRB: FF, Non FF, VDR
 - questions about production of and plans for new beacon types:
 - SGBs, ELT(DT)s, RLS
- Web-based survey form submission method
 - growing popularity of this method : 39 % of submissions
 - automation of data collection and processing
 - higher reliability of data collection and processing

Web-Based Survey Forms

<http://cospas-sarsat.int/en/documents-pro/beacon-manufacturer-survey-2020>



The screenshot shows the COSPAS-SARSAT website interface. At the top left, the logo reads "COSPAS-SARSAT.INT INTERNATIONAL SATELLITE SYSTEM FOR SEARCH AND RESCUE 406™ DISTRESS ALERTING SERVICE". To the right is the "COSPAS-SARSAT" logo and a Facebook icon. Further right are language options: "Français" and "Русский", and a red button labeled "COSPAS-SARSAT PROFESSIONALS".

The main navigation bar includes four dropdown menus: "BEACON OWNERSHIP", "SYSTEM OVERVIEW", "MEDIA GALLERY", and "ABOUT US".

The "BEACON OWNERSHIP" dropdown menu is open, showing the following items:

- How Do I Select and Purchase a Cospas-Sarsat Beacon?
- Where Can I Buy an RLS-Enabled Beacon? (highlighted)
- Why Should I Register My Beacon?
- Testing Your Beacon
- What happens when I activate my beacon?
- Beacon FAQ

The "SYSTEM OVERVIEW" dropdown menu is also open, showing the following items:

- National Beacon Regulations for Serial-Coded PLBs
- Inadvertent Alerts
- Seeing Information Programmed In Your Beacon
- Change of Beacon Owner Contact Information or Beacon Ownership
- Beacon Maintenance and Battery Replacement
- Disposal of Old Beacons and Old Batteries

A link is visible in the background: [as_sarsat/pdf_uploads/2020-B-mans-Survey-Form.pdf](#)

The main content area features the title "2020 Survey of Cospas-Sarsat 406 MHz Beacon Manufacturers". Below the title, there is a section for "Survey Participant Details:" and a form field labeled "Manufacturer *" with a red asterisk indicating a required field.

2020 Survey Submissions

- Submission methods chosen by 2020 survey respondents:
 - 39% - web submission
 - 61% - email submissions
 - 0% - fax
 - 0% - phone

2020 Survey Highlights and Analysis

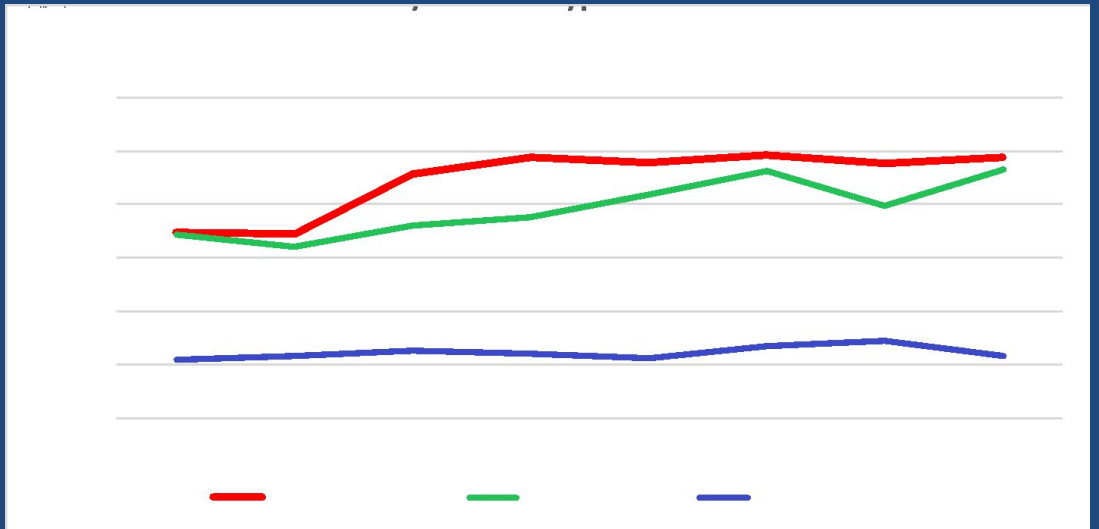
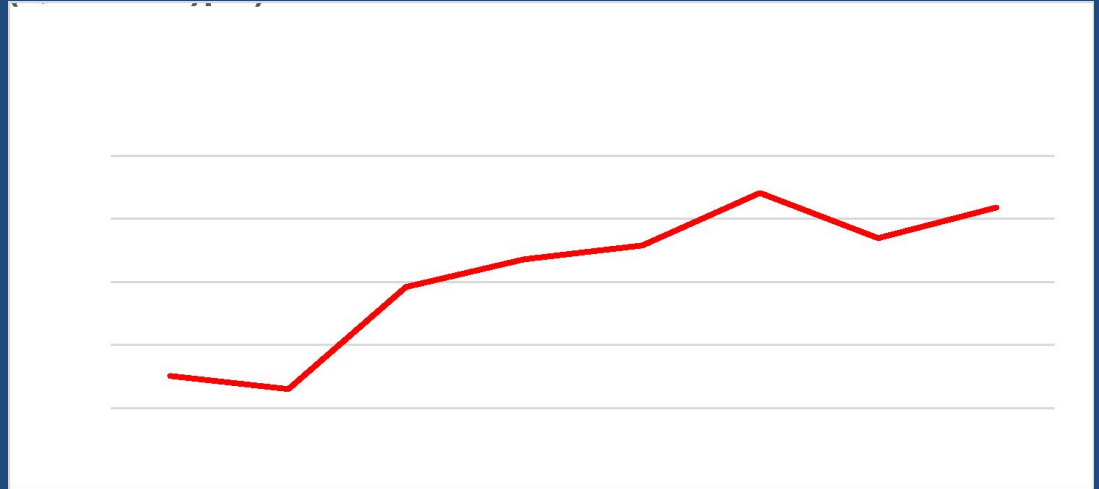


Annual Production

- 2019: **213,824** beacons produced worldwide (+5% vs 2018)
- 2018: ~204,000 (- 6.5%)
- 2017: ~218,000 (+ 8.4%)
- 2016: ~201,000 (+ 2.3%)
- 2015: ~197,000 (+ 4.5%)
- 2014: ~189,000 (+ 20.7%)
- 2013: ~156,000 (- 2.5%)
- 2012: ~160,000 (+ 2.2%)

=====

- Average annual production growth :
+7,700 (+ 4.2%)



2020 Survey Highlights



- 30% of beacon manufacturers reported an increase in the annual production volumes in 2019 (47% in 2018, 42% in 2017)
- 7 manufacturers (17 % of all respondents) reported 'zero' production in 2019 (13 % in 2018, 11% in 2017)
- 16 manufacturers (39% of all respondents) produced between 1 and 499 units in 2019 (40 % in 2018, 36% in 2017)
- in 2019, 18 manufacturers (44% of respondents) had annual production of 500 and more units (47 % in 2018, 53% in 2017)



2020 Survey – Detailed Beacon Distribution



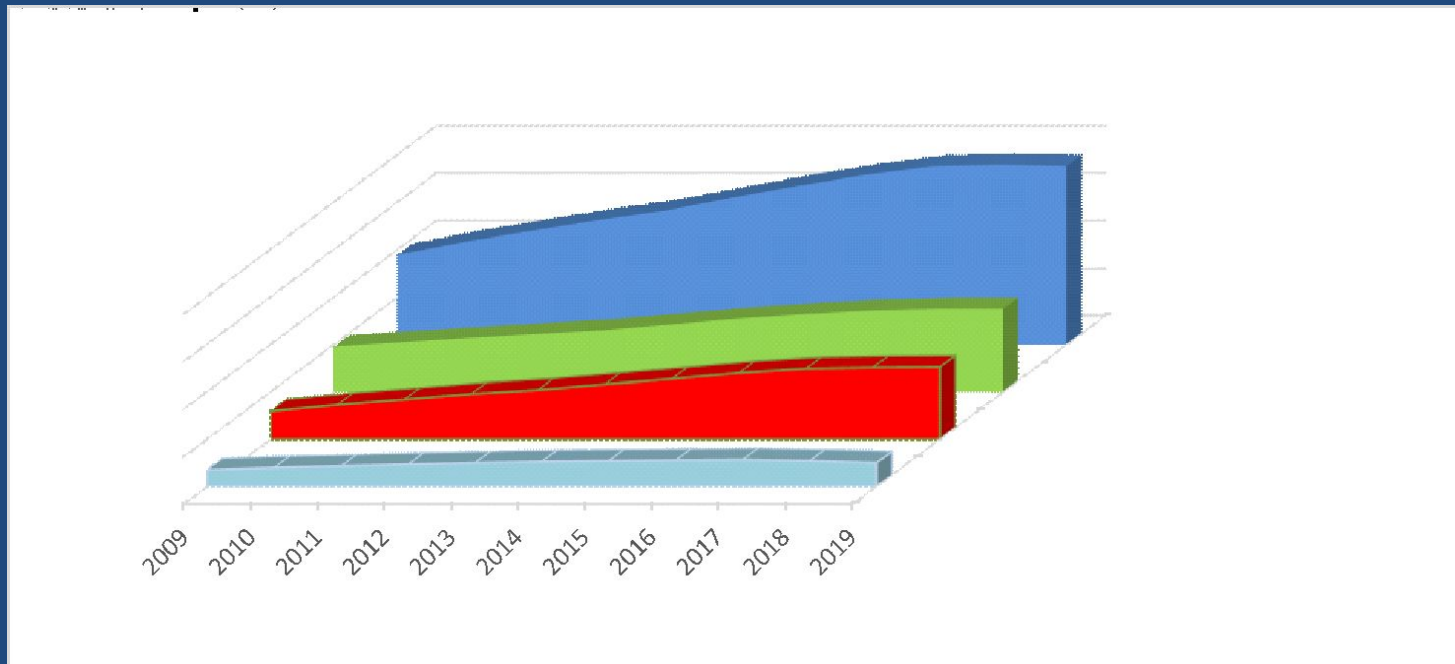
Table 3 - Distribution of ELTs, EPIRBs and PLBs Manufactured in 2019

Beacon type	2019	% of Total Beacon Type	% of Global Production Total
	Global Production, units		
Total ELTs , Including:	23,055	100%	10.8%
- ELT(AF)	16,333	70.8%	7.6%
- ELT(AP)	686	3.0%	0.3%
- ELT(AD) and ELT(S)	6,036	26.2%	2.8%
- ELT(DT)	0	0.0%	0.0%
Total EPIRBs, including:	97,450	100%	45.6%
- EPIRB Float Free and EPIRB VDR	47,968	49.2%	22.4%
- EPIRB Non-Float Free	49,482	50.8%	23.1%
Total PLBs	93,286	100%	43.6%
Total of Global Production for all beacon types	213,824	100%	100.0%

Estimated Global Beacon Population



- About **1,881,000** beacons were in use at the end of **2019** (using the assumed-replacement-period estimation method)
- Annual change in global beacon population: **~ - 1%**
- Production in 2009 (**~229,000**) was higher than in 2019 (**~214,000**)



- Estimates obtained with the alternative method - the Registration Rate method, - indicate that, in 2019, global beacon population could reach **2,492,000** units.

Assumed Beacon Life Cycle and Estimated Beacon Population

Beacon Type	Historical modeling assumption, years	Median life cycle survey of 2020 (2019/2018), years	Weighted* life cycle survey of 2020 (2019/2018), Years
EPIRB	10	8 (9/8)	9 (9/9)
PLB	10	9 (8/8)	8 (7/7)
ELT	10	15 (15/10)	19 (16/17)
ALL beacon types	10	10 (10/10)	9 (9/9)
Estimated Global population in 2019	~ 1,881,000 ("10-10-10" assumption)	~ 1,896,000 ("8-9-15" assumption)	~ 1,942,000 ("8-9-19" assumption)

Note: * Weighted life cycle (WLS) was calculated with the formula:

$$WLS = \sum (L_i \times W_i) / \sum W_i, \text{ where:}$$

- L_i is the beacon life cycle reported by the i -th beacon manufacturer for a beacon type,

Location Protocol Beacons

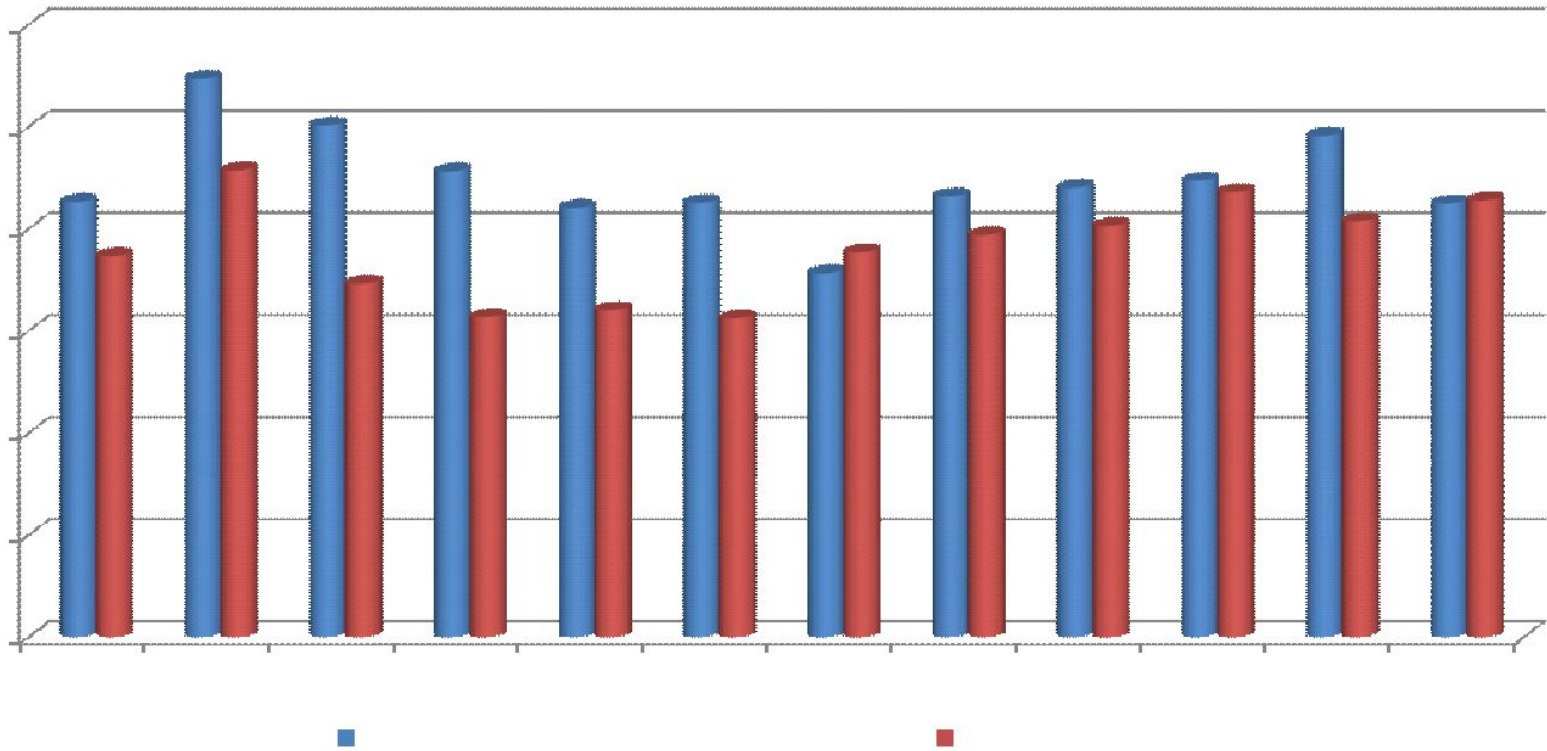
Beacon Type	Production of LP-beacons in 2019, units	Ratio of LP-beacons to all beacons produced in 2019, %	Ratio to all LP-beacons, %
EPIRBs	71,364	73.2%	39.6%
PLBs	92,891	99.5%	51.5%
ELTs	16,002	69.4%	8.9%
All 406 MHz Beacon Types	180,257	84.3%	100.0%

- About 1,308,000 LP beacons were in use at the end of 2019, which corresponds to 70 % of all beacons deployed worldwide (63% in 2018, 59% in 2017)

Manufacturers' Production Plans for 2020

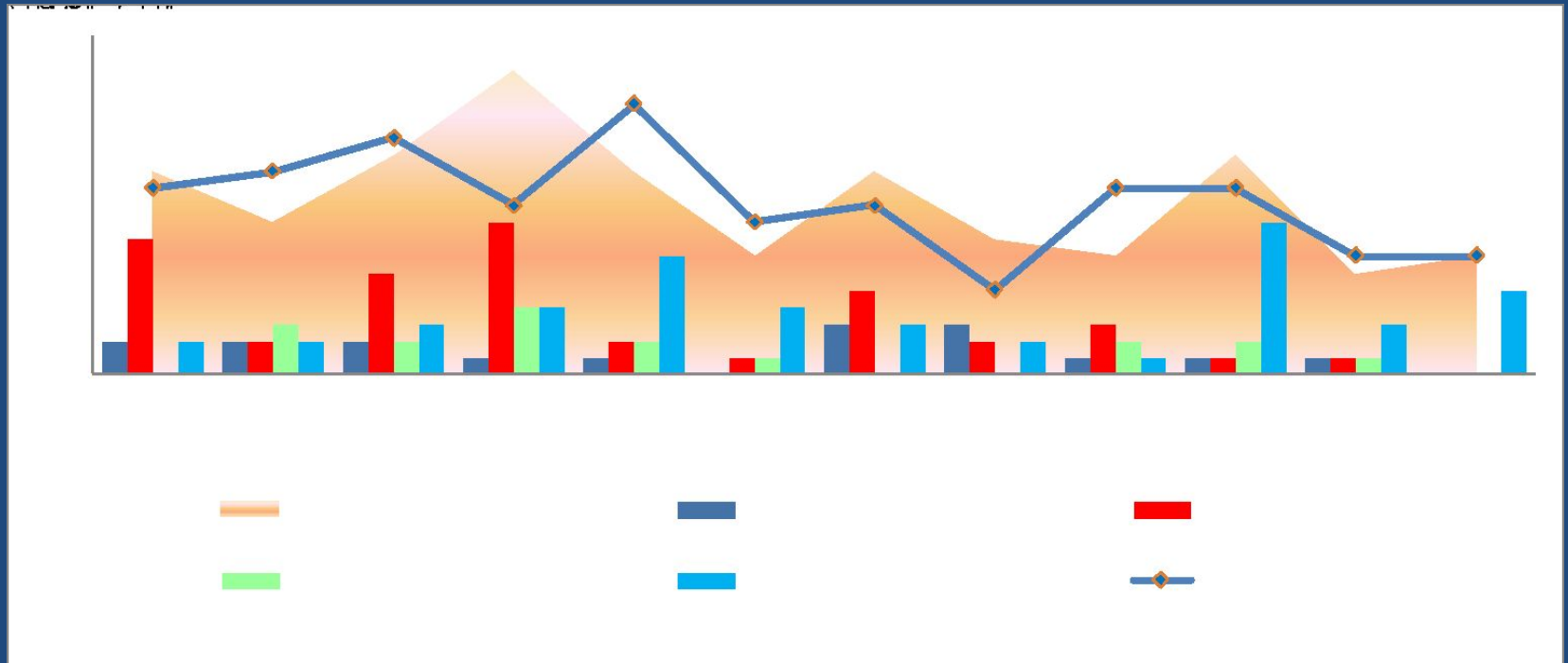
- Manufacturers plan to produce over **248,000** new beacons in **2020** (+ 16 % over the 2019 production volume), including:
 - 123,000 new EPIRBs,
 - 25,000 new ELTs,
 - 100,000 PLBs.
- Based on the beacon manufacturers plans for **2020**, an estimated global population of 406 MHz (FGB) beacons at the end of 2020 could reach: **1,956,000 units** (using the assumed-replacement-period estimation method; likely higher using the registration-rate method)

Comparison of Beacon Manufacturers' Forecasts vs Actual Annual Production



Beacon Type	Manufacturers' Forecast for 2019	Actual Production in 2019	Actual over Forecast Discrepancy, %
All beacon types	212,362	213,824	+0.7%

Type Approval Activity in 2019



- In 2019, the Secretariat performed 124 reviews of type-approval submissions, including:
 - 18 full type approvals,
 - 41 change notices (non-administrative),
 - 17 administrative change notices,
 - 48 previews of re-application submissions

For more information...

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