



सत्यमेव जयते



# Ministry of Electronics & Information Technology

## ReALCRAFT

Registration and License issuing system to Indian Fishing Vessels

**A Project to Strengthen the Coastal & Fishermen Security,**

**National Database on Fishing Vessels**

# CSI SIG eGovernance (CSeGA) Awards 2020 Projects Sustenance Awards Category



## Agenda

Project Background and Objectives

Services

Additional Enhancements

Major Milestones & Present Status

Roadmap

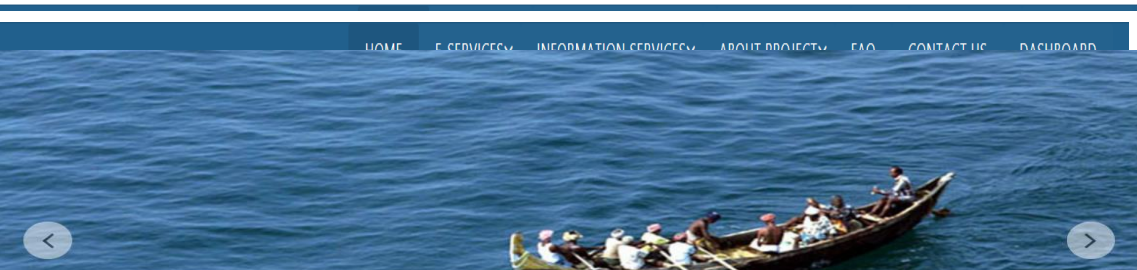




GOVERNMENT OF INDIA  
Department of Animal Husbandry Dairying and Fisheries

ReALCRaft  
(Registration And Licensing of Fishing Craft)

NEWS & EVENTS RAFT SITE MODIFIED NEW RAJIV GANDHI JAL SANCHAY YOJANA NEW SUBJECT TO DOABLE WORK UNDER CSR AND SELECTION OF PROJECTS THROUGH PORTAL NEW 4TH A



Dashboard



Total RC Issued  
**259780**



Total LC Issued  
**139619**



Total Permits Issued  
**60**



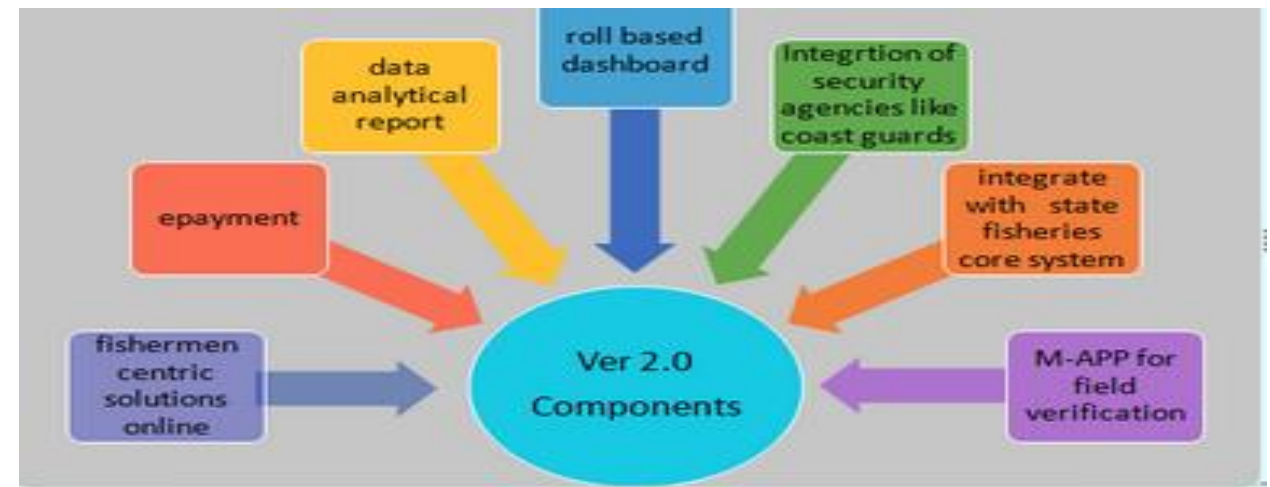
Marine Ambulance  
**3**

| CATEGORY                 | RC     | LC    |
|--------------------------|--------|-------|
| Deep Sea Fishing Vessel  | 83     | 68    |
| Motorized non Mechanical | 136717 | 78088 |
| Motorized Mechanical     | 66799  | 43161 |
| Non-motorized            | 56181  | 18302 |

**ReALCRaft** is a web enabled workflow based online application system for issuing Registration Certificate (RC) Under MS Act (Merchant Shipping) and Fishing License Certificate (LC) to fishing vessels operating along the Indian Coast under MFR (Marine Fisheries Regulation )Act.

It is a demand driven project to enhance coastal security by identifying every fishing vessel with a unique registration number.

The database is also shared with various stakeholders including National Security Agencies and State Governments to facilitate various support services including management of beneficiary schemes. **The Components are**



257992  
Total RC Issued

137051  
Total LC Issued

42  
Total Permit Issued

3  
Marine Ambulance

### Vessel Registration

| Year | Count |
|------|-------|
| 2020 | 12141 |
| 2019 | 18200 |
| 2018 | 12637 |
| 2017 | 16137 |

### License Details

| Year | Count |
|------|-------|
| 2020 | 14340 |
| 2019 | 23506 |
| 2018 | 26077 |
| 2017 | 19709 |

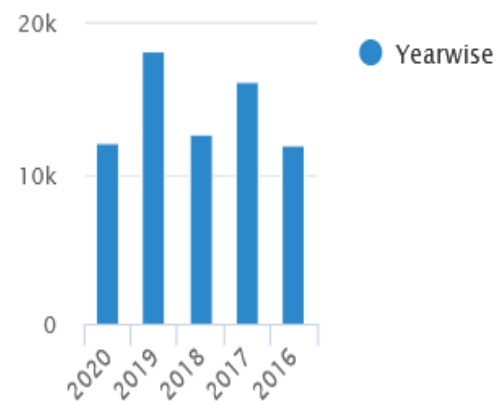
### Fishing Permit

| Year | Count |
|------|-------|
| 2020 | 5     |
| 2019 | 44    |
| 2018 | 1     |
| 2015 | 1     |

### Marine Ambulance

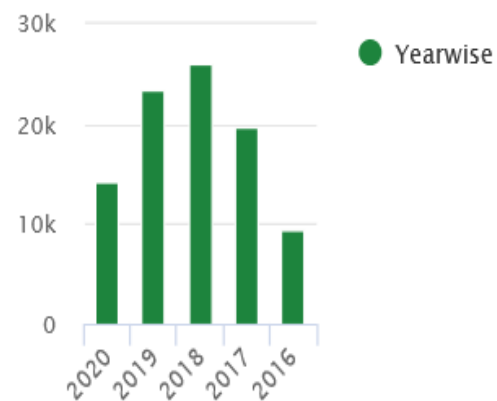
| Year | Count |
|------|-------|
| 2020 | 3     |

### Status of Vessel Registration



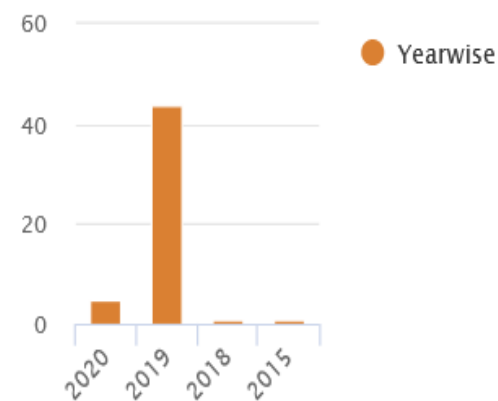
Highcharts.com

### Status of License



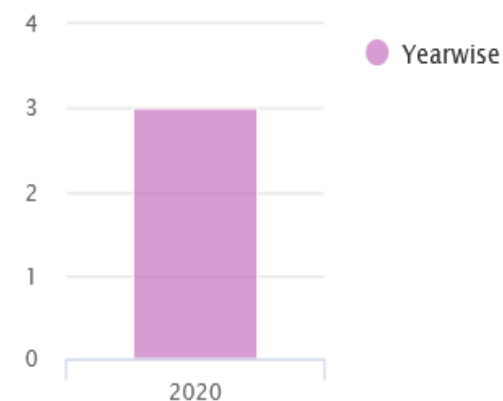
Highcharts.com

### Status of Fishing Permit



Highcharts.com

### Status of Marine Ambulance



Highcharts.com

## Background

The ReALCRAFT project was originally developed for the Kerala State under Kerala Marine Fisheries **Regulation Act (KMFRA) on 2009**.

Govt. of Kerala initiated this project way back in **2008**, when repeated cases of missing boats were reported and the Officials found it difficult to identify the boats due to lack of uniformity, multiple registrations for the same boat and same engine registered for multiple Vessels etc. This paved the way to introduce ICT based uniform system for vessel registration and Licensing for fishing Operations.

During the National Workshop on **21<sup>st</sup> Jan 2009** development of 'Fisheries Information System Network (FISHNET)', GoI recommended that the ReALCRAFT System to be rolled out in all Coastal States and UTs.

After the Mumbai attack 2009, Government of India decided to gear up coastal security and have a uniform mechanism to identify each and every fishing vessel operating in Indian coastal belt.

When Indian coastal security was thus threatened, GoI decided to implement the Kerala model 'ReALCRAFT', in all the 9 Coastal States & 4 UT's on **01/01/2011**

## Objectives

- To bring all the Indian fishing vessels (about 2.5 lakh ) under one hub
- To prepare National database for fishing vessels.
- To regulate the movements of fishing vessels
- To strengthen coastal security and security of fishermen in the sea.
- To Prevent IUU - Illegal, unregistered and unreported vessels in the territorial waters
- To facilitate optimum utilization of the fishery resources
- Assists the coastal security agencies – is as a part of comprehensive coastal monitoring, control and surveillance system)
- Back bone for other services to the fishermen like insurance claim, subsidy claim, fuel permit, monitoring the movements of crews etc

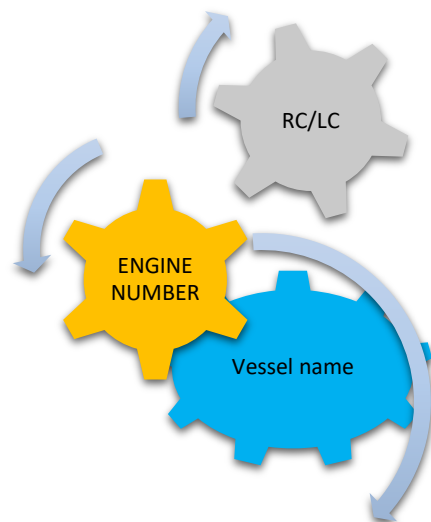
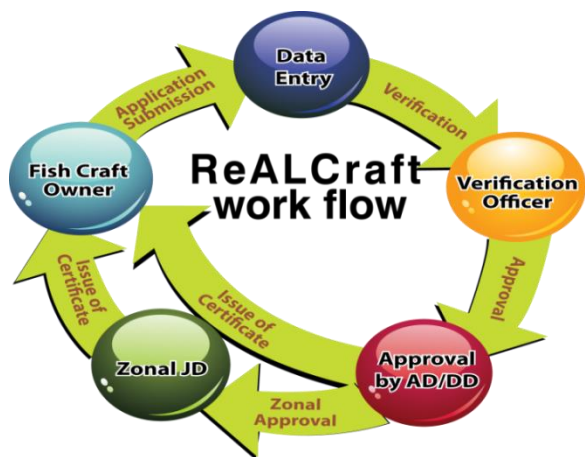


## Benefits



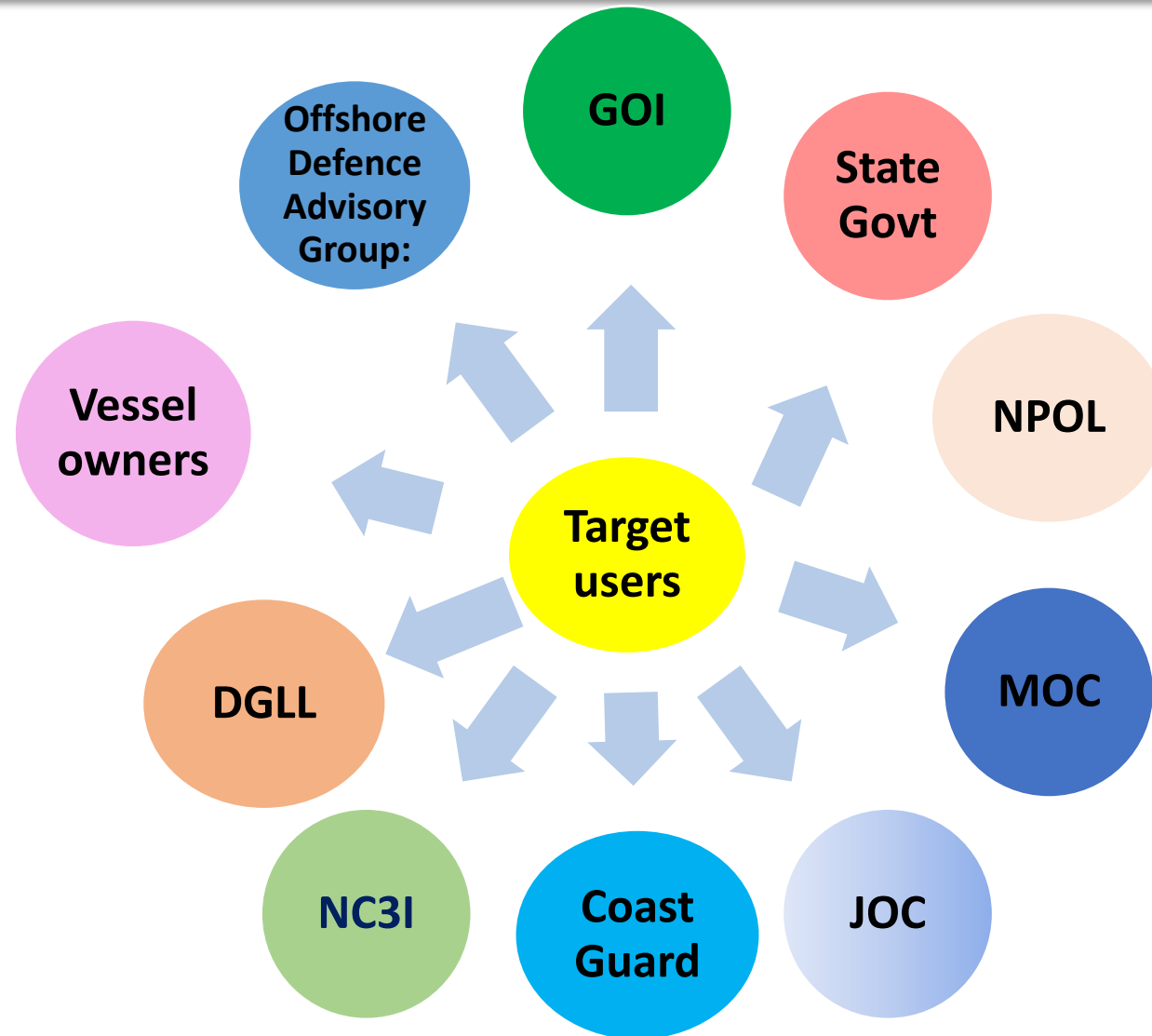
- Helps coastal security agencies in pin point and monitoring the fishing vessels, keeping at bay illegal, unregistered and unreported activities. The project also aims at security for our fishermen.
- Improves coastal security, fishermen security, and ensures benefits such as kerosene and petrol subsidy along with insurance to fishermen
- Rescue measures can be initiated timely with the help of the Data available in the System during disaster

## Features



- Centralised hosting at National Data Centre and DR Site in Bhubaneswar.
- Integration with state-specific payment gateway (Bank /treasury),
- Integration with security agencies to record the movements and track the vessels.
- Upstream integration with insurance agencies, subsidy schemems for edbt and Aadhaar (for authentica-tion) .
- Integration & data sharing with Govt. Agencies/ security Agencies ,DigiLocker ,CM dashboard .
- Comprehensive dashboard, data analytics.
- Fisheremen centric soultions.
- Advanced Search
- Roll based dashboard
- Bilingual

## Stakeholders



## Services



1. Registry of transfer of ownership or interest

2. Transfer of ownership by operation of law

3. Fishing boats owned by minors

4. Transfer of registry

5. Change of name of fishing boat

6. Registry of alterations materially affects the dim

7. Registry of alterations materially not affect the dim

8. Provisional certificate of registry

9. Inspection of register & supply of certified copies

10. Closing of registry

11. Change in crew details

12. Change in Vessel insurance

13. Change in subsidy details

14. RC duplicate

15. Mortgage

## Additional Enhancements

### Security Agencies (2019)

- Integrated with Security Agencies like Coast Guard, Marine Police and State Fisheries Departments for monitoring the vessels using open API. This enables these agencies and departments to monitor the movement of vessels as well as identity verification.

### IMAC (2020)

- Integrated with Information Management And analysis Centre (IMAC) as part of National Command Control Communication and Intelligence (NC3) network to ensure the security and safety of fishermen as well as managing national security.

### SAGARA(2018 )

- Integrated SAGARA mobile app and web portal with ReALCRAFT data base for the management of Fishermen Onboarding, their movements from various fishing locations and for the monitoring of Vessel and Crew Movement and useful Monitoring during emergencies and Disastrous Management.

### MPEDA(2016,2017)

- Integrated with MPEDA using open API for verification of vessel for issuing catch certificate for export purpose. State Fisheries departments using the realcraft data for diesel subsidy using open API.

### Other Services(2018)

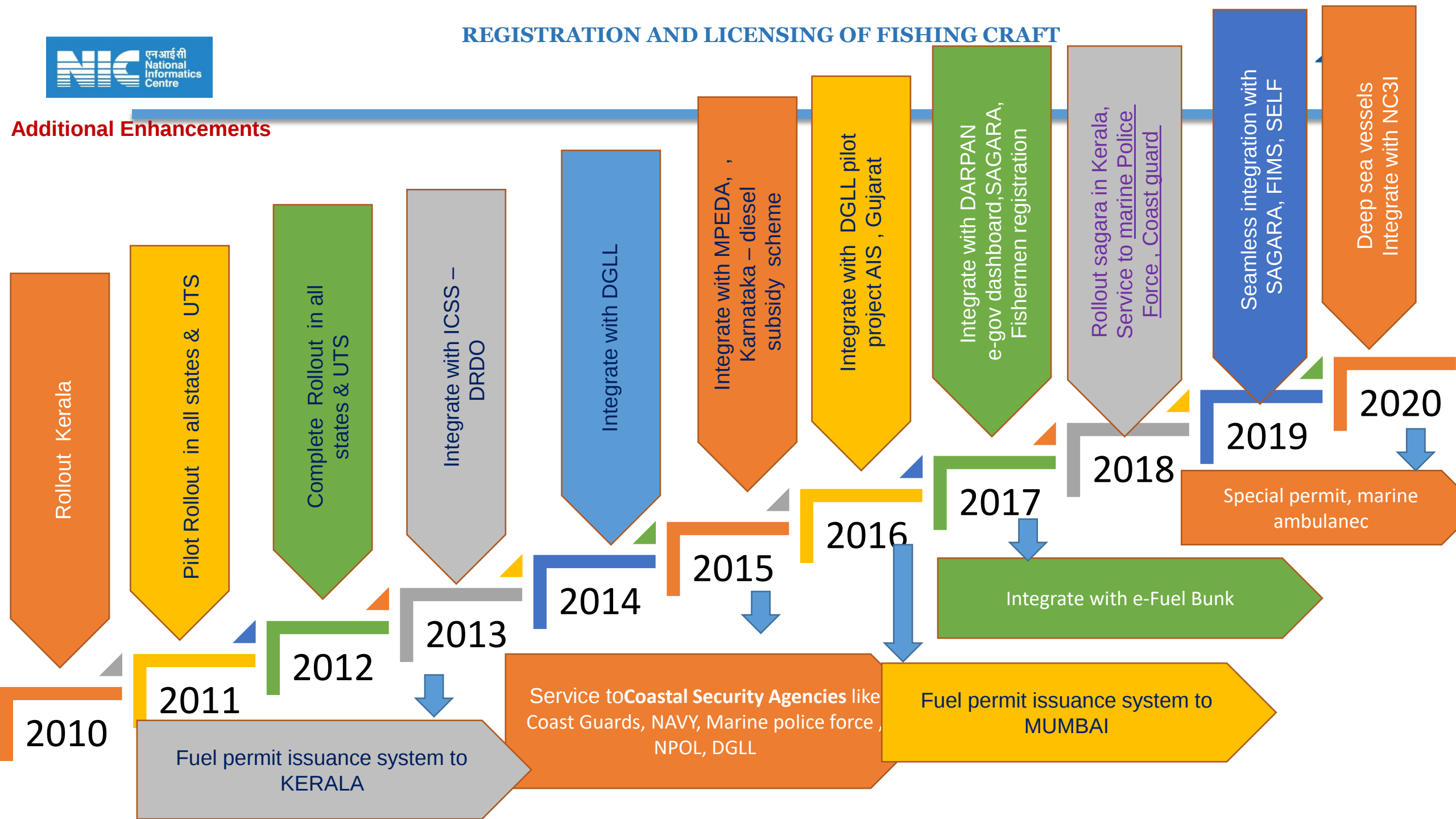
- Back bone for other services to the fishermen like insurance claim, subsidy claim, fuel permit, monitoring the movements of crews etc
- Configured for issuing RC & LC for Marine Ambulance in Kerala

### Special Permit & MARINE Ambulance (2020)

- Introduced Special permit for vessels having hull length > 20 meters and 250 HP  
Additional category of Deep Sea Fishing vessels added  
Configured Registration module for issuing RC to the Marine Ambulances for rescue Operations.

## REGISTRATION AND LICENSING OF FISHING CRAFT

### Additional Enhancements



# Monitoring Mechanism

257992

Total RC Issued

137051

Total LC Issued

42

Total Permit Issued

3

Marine Ambulance

Vessel Registration

| Year | Count |
|------|-------|
| 2020 | 12141 |
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License Details

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Fishing Permit

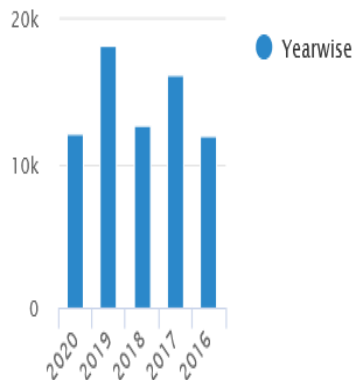
| Year | Count |
|------|-------|
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Marine Ambulance

| Year | Count |
|------|-------|
| 2020 | 3     |

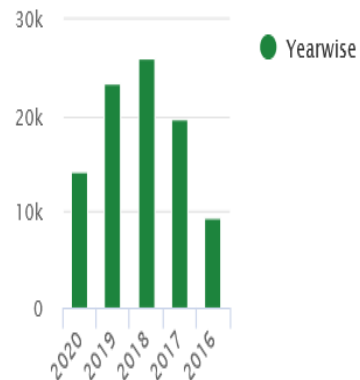
**MHA, State Fisheries Dept generating**  
**National-wide, State-wide**  
**, Place of registry, base of**  
**operation, vessel wise**  
**reports.**

Status of Vessel Registration



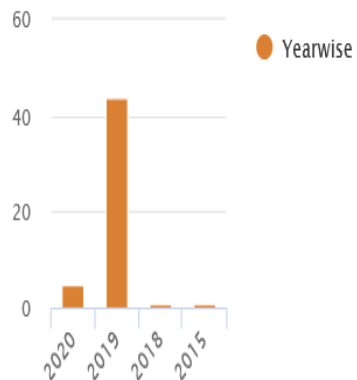
Highcharts.com

Status of License



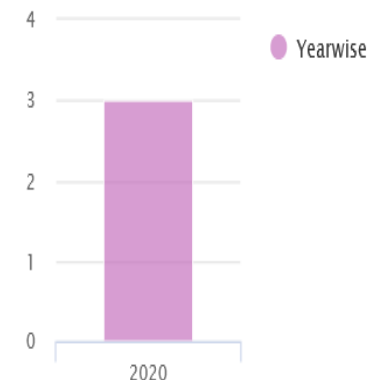
Highcharts.com

Status of Fishing Permit



Highcharts.com

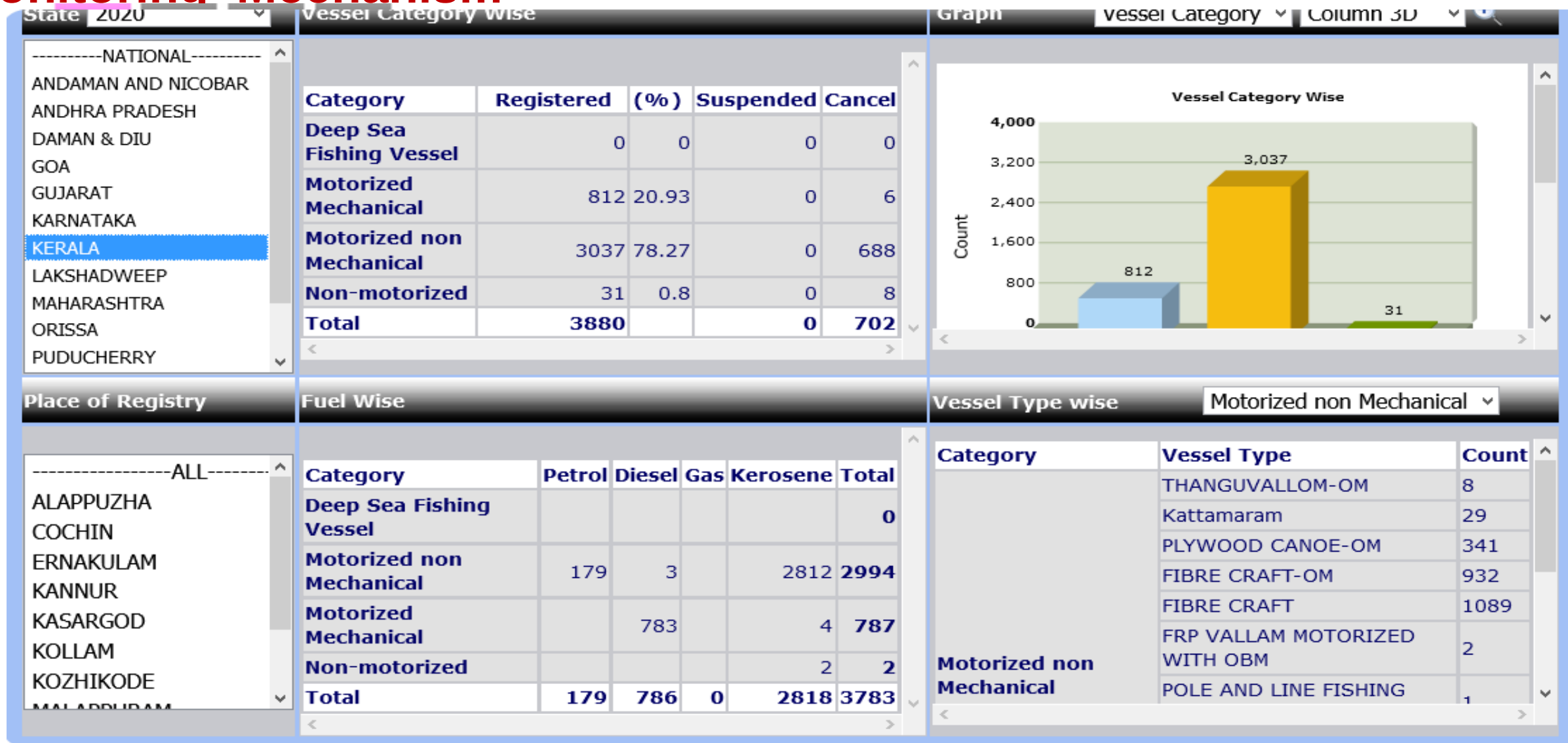
Status of Marine Ambulance



Highcharts.com

- Central Admin,
- Respective state admin,
- Feedback
-

## Monitoring Mechanism



## Technology Enhancements

### Technology upgradation

- The PHP version has been changed from 5.3 to 7.4.
- Framework upgraded
- PostgreSQL upgraded to latest version (12)
- Moved from Server fabric at NDC Hyderabad to Mini Cloud Data Centre at NIC Kerala.
- Security Audit Done for the latest platform and Source Code Analysis also completed with Periodic Pen Tests
- RestFul Web Services / API introduced for third party and state and central e-Gov application integration.

## Present status - Implementation

Project Locations (9 States and 4 UTs)



Total RC Issued  
**257986**



Total LC Issued  
**137048**

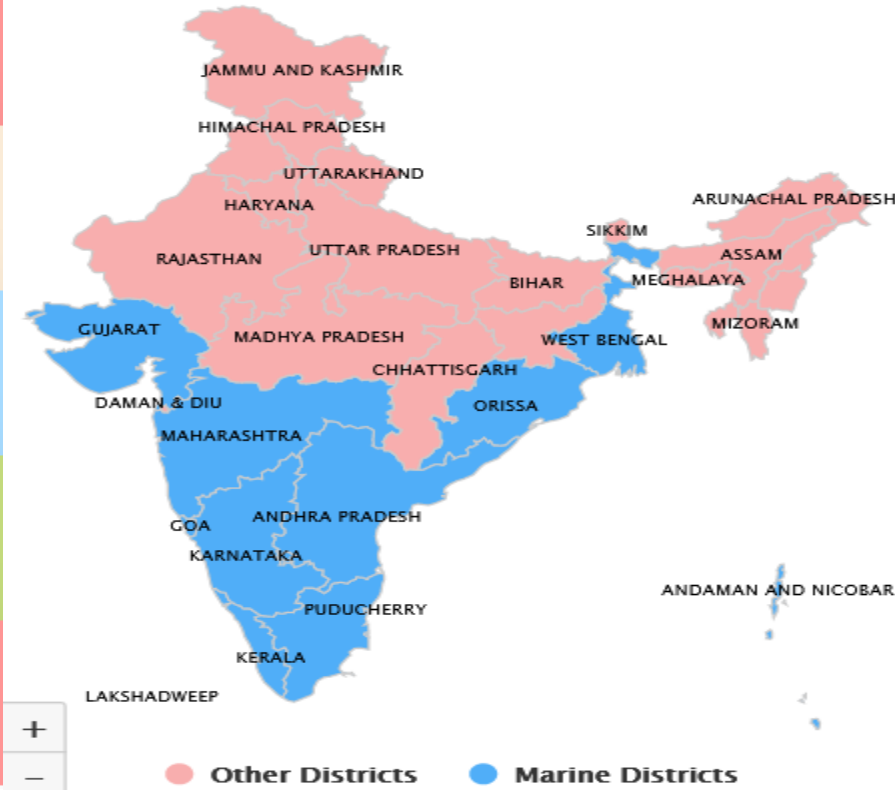


Total Permits Issued  
**42**



Marine Ambulance  
**3**

| CATEGORY                 | RC     | LC    |
|--------------------------|--------|-------|
| Deep Sea Fishing Vessel  | 75     | 61    |
| Motorized non Mechanical | 135463 | 76997 |
| Motorized Mechanical     | 66850  | 42533 |
| Non-motorized            | 55598  | 17457 |



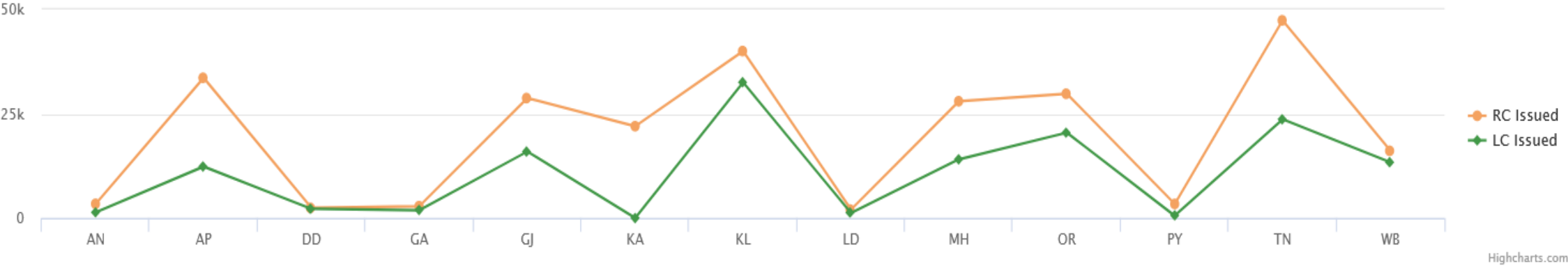
- ❖ **Operational** from 166 locations along the coastal line, Around 2.90 laks vessels have been r
- ❖ Around 1000 **users** are accessing the system
- ❖ **Stakeholders** - Navy, Coast Guards, Marine Police, Fisheries Authorities, Ministry of Home Affairs, DRDO Labs associated with Coastal Security..
- Legal issues** - Marine Shipping Act 1988 modified , Security agencies like Coast Guards , DGLL uses Vessel Registration No. (Unique) in their National Automatic Identification System (NAIS) for Fishing Vessels

## Implementation ..

**Vessels Registered  
as on 01/10/2020  
(Including Live,  
Cancelled, Suspended)**

| Name of State       | Deep Sea<br>Fishing Vessel | Motorized non<br>Mechanical | Motorized<br>Mechanical | Non-motorized | Total         |
|---------------------|----------------------------|-----------------------------|-------------------------|---------------|---------------|
| ANDAMAN AND NICOBAR | 0                          | 2200                        | 141                     | 1471          | 3812          |
| ANDHRA PRADESH      | 0                          | 26406                       | 2461                    | 18723         | 47590         |
| DAMAN & DIU         | 2                          | 320                         | 2145                    | 0             | 2467          |
| GOA                 | 0                          | 0                           | 2922                    | 304           | 3226          |
| GUJARAT             | 59                         | 11917                       | 17358                   | 78            | 29412         |
| KARNATAKA           | 0                          | 9857                        | 4748                    | 7457          | 22062         |
| KERALA              | 10                         | 34523                       | 6154                    | 2918          | 43605         |
| LAKSHADWEEP         | 0                          | 1586                        | 52                      | 413           | 2051          |
| MAHARASHTRA         | 0                          | 0                           | 22189                   | 8371          | 30560         |
| ORISSA              | 0                          | 15895                       | 1919                    | 17529         | 35343         |
| PUDUCHERRY          | 0                          | 2246                        | 773                     | 821           | 3840          |
| TAMIL NADU          | 0                          | 42753                       | 7256                    | 7238          | 57247         |
| WEST BENGAL         | 0                          | 6242                        | 3640                    | 6823          | 16705         |
| <b>TOTAL</b>        | <b>71</b>                  | <b>153945</b>               | <b>71758</b>            | <b>72146</b>  | <b>297920</b> |

## Implementation ..



| Name of State       | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total         |
|---------------------|-------------------------|--------------------------|----------------------|---------------|---------------|
| ANDAMAN AND NICOBAR | 0                       | 2200                     | 141                  | 1471          | 3812          |
| ANDHRA PRADESH      | 0                       | 26406                    | 2461                 | 18723         | 47590         |
| DAMAN & DIU         | 2                       | 320                      | 2145                 | 0             | 2467          |
| GOA                 | 0                       | 0                        | 2922                 | 304           | 3226          |
| GUJARAT             | 59                      | 11917                    | 17358                | 78            | 29412         |
| KARNATAKA           | 0                       | 9857                     | 4748                 | 7457          | 22062         |
| KERALA              | 10                      | 34523                    | 6154                 | 2918          | 43605         |
| LAKSHADWEEP         | 0                       | 1586                     | 52                   | 413           | 2051          |
| MAHARASHTRA         | 0                       | 0                        | 22189                | 8371          | 30560         |
| ORISSA              | 0                       | 15895                    | 1919                 | 17529         | 35343         |
| PUDUCHERRY          | 0                       | 2246                     | 773                  | 821           | 3840          |
| TAMIL NADU          | 0                       | 42753                    | 7256                 | 7238          | 57247         |
| WEST BENGAL         | 0                       | 6242                     | 3640                 | 6823          | 16705         |
| <b>TOTAL</b>        | <b>71</b>               | <b>153945</b>            | <b>71758</b>         | <b>72146</b>  | <b>297920</b> |

## Implementation ..

|                             |                         |                          |                      |               |       |
|-----------------------------|-------------------------|--------------------------|----------------------|---------------|-------|
| *State :                    | ANDAMAN AND NICOBAR ▾   | Live ▾                   |                      |               |       |
| Name of Place of Registries | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total |
| South Andaman               |                         | 923                      | 115                  | 461           | 1499  |
| MAYABUNDER                  |                         | 649                      | 3                    | 875           | 1527  |
| CAR NICOBAR                 |                         | 330                      | 5                    | 50            | 385   |
| TOTAL                       |                         | 1902                     | 123                  | 1386          | 3411  |

|                             |                         |                          |                      |               |       |
|-----------------------------|-------------------------|--------------------------|----------------------|---------------|-------|
| *State :                    | GOA                     | Live                     |                      |               |       |
| Name of Place of Registries | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total |
| PANAJI                      |                         |                          | 2585                 | 270           | 2855  |
| TOTAL                       |                         |                          | 2585                 | 270           | 2855  |

|                              |                         |                          |                      |               |       |
|------------------------------|-------------------------|--------------------------|----------------------|---------------|-------|
| *State :                     | DAMAN & DIU             | Live                     |                      |               |       |
| Name of Place of Registries  | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total |
| FISHERIES DEPARTMENT - DIU   | 2                       | 319                      | 1730                 |               | 2051  |
| Fisheries Department - Daman |                         | 1                        | 381                  |               | 382   |
| TOTAL                        | 2                       | 320                      | 2111                 |               | 2433  |

|                                   |                         |                          |                      |               |       |
|-----------------------------------|-------------------------|--------------------------|----------------------|---------------|-------|
| *State :                          | WEST BENGAL             | Live                     |                      |               |       |
| Name of Place of Registries       | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total |
| ADF MARINE DIAMOND HARBOUR        |                         | 4126                     | 2207                 | 6169          | 12502 |
| ADF MARINE CONTAI PURBA MEDINIPUR |                         | 1693                     | 1435                 | 482           | 3610  |
| TOTAL                             |                         | 5819                     | 3642                 | 6651          | 16112 |

## Implementation ..

| *State :                    | KERALA                  | Live                     |                      |               |              |
|-----------------------------|-------------------------|--------------------------|----------------------|---------------|--------------|
| Name of Place of Registries | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total        |
| THIRUVANANTHAPURAM          |                         | 10115                    | 14                   | 1183          | 11312        |
| KOLLAM                      |                         | 2394                     | 1656                 | 220           | 4270         |
| ALAPPUZHA                   |                         | 4366                     | 200                  | 317           | 4883         |
| ERNAKULAM                   | 10                      | 773                      | 1744                 | 313           | 2840         |
| THRISSUR                    |                         | 1335                     | 163                  | 131           | 1629         |
| MALAPPURAM                  |                         | 4278                     | 449                  | 54            | 4781         |
| KOZHIKODE                   |                         | 4103                     | 1262                 | 196           | 5561         |
| KANNUR                      |                         | 1892                     | 385                  | 225           | 2502         |
| KASARGOD                    |                         | 1943                     | 198                  | 117           | 2258         |
| COCHIN                      |                         |                          |                      |               | 0            |
| <b>TOTAL</b>                | <b>10</b>               | <b>31199</b>             | <b>6071</b>          | <b>2756</b>   | <b>40036</b> |

| *State :                    | GUJARAT                 | Live                     |                      |               |              |
|-----------------------------|-------------------------|--------------------------|----------------------|---------------|--------------|
| Name of Place of Registries | Deep Sea Fishing Vessel | Motorized non Mechanical | Motorized Mechanical | Non-motorized | Total        |
| AHMEDABAD                   |                         | 1                        |                      |               | 1            |
| VERAVAL                     | 69                      | 7171                     | 6573                 | 2             | 13815        |
| JAMNAGAR                    |                         | 345                      | 2736                 | 1             | 3082         |
| JAFRABAD                    |                         | 27                       | 1179                 |               | 1206         |
| PORBANDAR                   | 2                       | 2277                     | 2780                 |               | 5059         |
| BHAVNAGAR                   |                         | 34                       | 351                  |               | 385          |
| RAJKOT                      |                         | 155                      | 1                    | 2             | 158          |
| Bhuj Kutch                  |                         | 1699                     | 74                   | 3             | 1776         |
| VALSAD                      |                         | 2                        | 2530                 | 27            | 2559         |
| NAVSARI                     |                         |                          | 419                  | 2             | 421          |
| BARODA                      |                         |                          |                      |               | 0            |
| BHARUCH                     |                         | 1                        | 33                   |               | 34           |
| ANAND                       |                         |                          |                      |               | 0            |
| SURAT                       |                         | 215                      |                      | 39            | 254          |
| <b>TOTAL</b>                | <b>71</b>               | <b>11927</b>             | <b>16676</b>         | <b>76</b>     | <b>28750</b> |

## Impact & Outcome



Integrated with **SELF** (Fuel Permit Management System) to streamline the fuel Card distribution to the registered vessel owners and fuel distribution to the valid fuel permit holders with the aim of providing total integrated end to end solution to the Fishermen and to Increase the efficiency of the subsidy disbursal to the right fishermen in right time , Reduce pilferage , Eliminate middle layer in fuel procurement



### Coastal State & UTs

Integration with e-Gov applications – as a Back bone for other services to the fishermen like insurance claim, subsidy claim, fuel permit, monitoring the movements of crews etc



Integrated with Security Agencies like Coast Guard, Marine Police and State Fisheries Departments , IMAC (NC3I) for monitoring the vessels using open API. This enables these agencies and departments to monitor the movement of vessels as well as identity verification.



### SAGARA

Mobile App and Portal – MHA has identified SAGARA as the national software for onboarding fishermen.



*A Joint Initiative of*

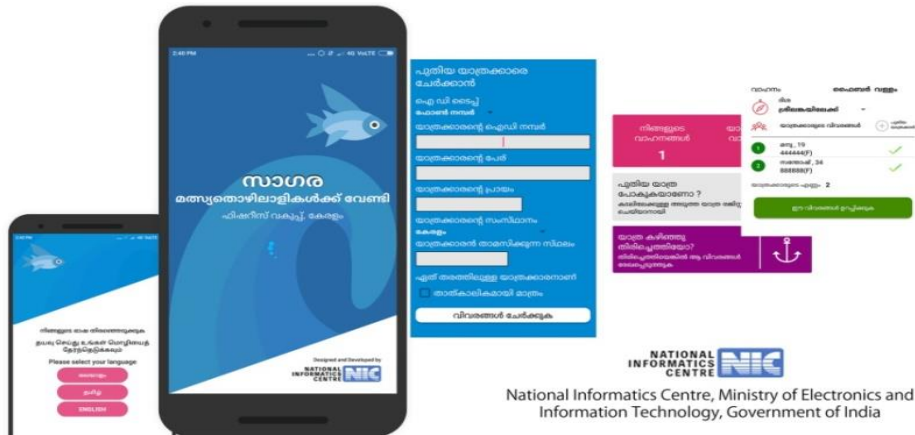
Department of Fisheries, Govt. of Kerala and National Informatics Centre, Kerala.

This is for ensuring fishermen Safety & Security. Focus is given on monitoring the movements of fishing vessels going for fishing operation and the accompanying crews. This will primarily act as a form of communication between fishermen and authorized government agencies.

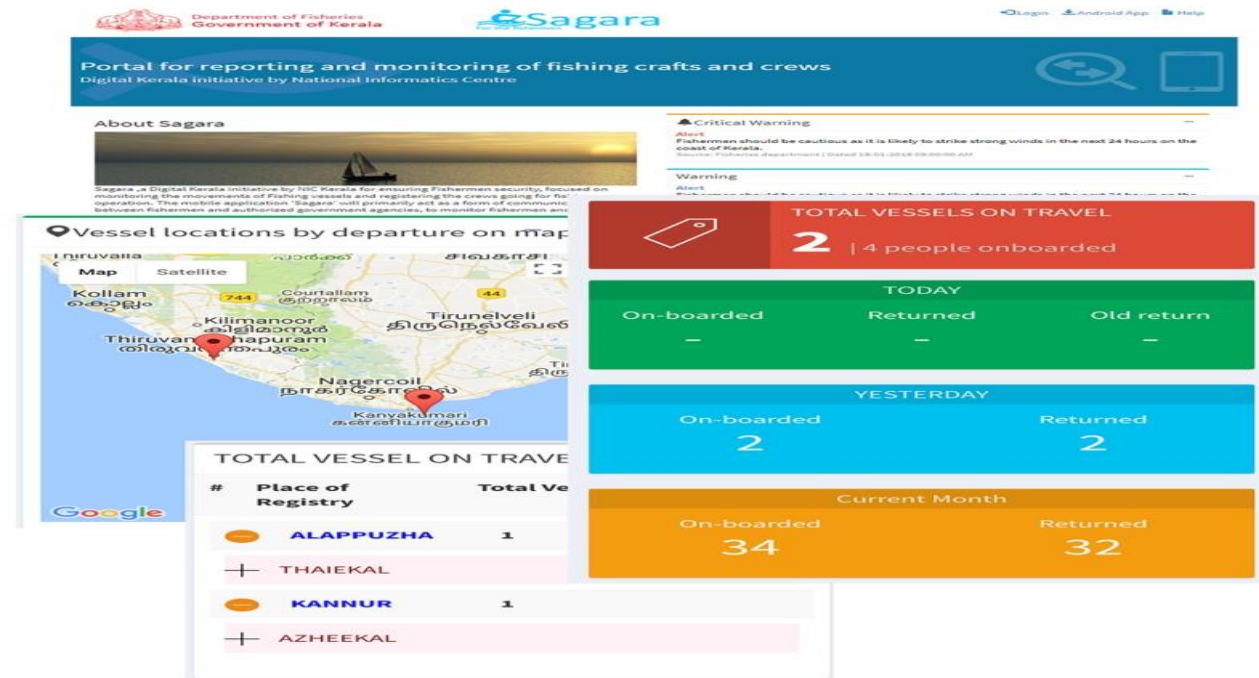
## Enhancements Provided

Developed Mobile App for fishermen and Web Portal for Dept to monitor the crew movements.

<https://sagara.kerala.gov.in>



National Informatics Centre, Ministry of Electronics and Information Technology, Government of India



## Why integrating with ReALCRAFT

The Navy and Coast Guard, with the help of State Government Fisheries Depts, are going to install transponders in all private boats of Indian fishermen to locate their position in the sea. These transponders will be connected through the NC3I for monitoring the vessels in the Indian Territorial water. .

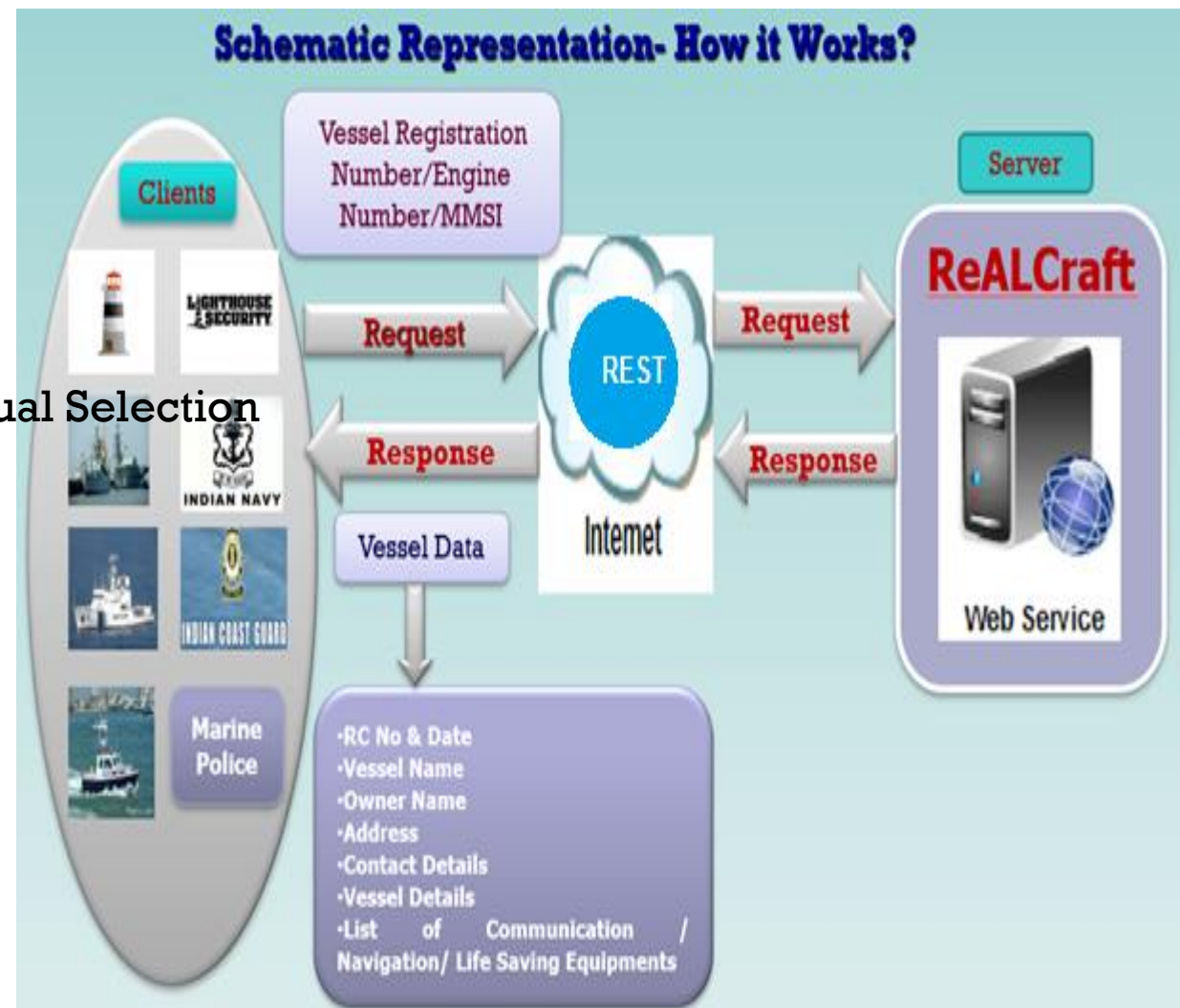
❖Multilingual Selection

NC3I integration needs **real time vessel details of ReALCRAFT.**

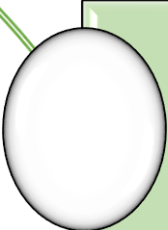
Using the Secured API, vessel database can be integrated with NC3I.

**In ReALCRAFT , provision is already available to capture any transponders fitted with vessels.**

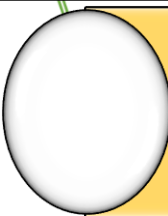
## How it can be done



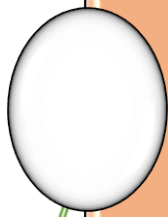
## BPR



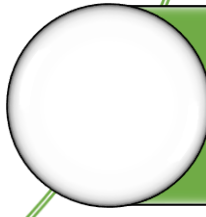
To enable an easy commencement and operation of application, MS Act and respective Marine fisheries Regulation act Amended



**Introduced uniform RC & LC**



Uniform integrated platform for filing application at a single point.



Integrated with e-GOV applications using OPEN API

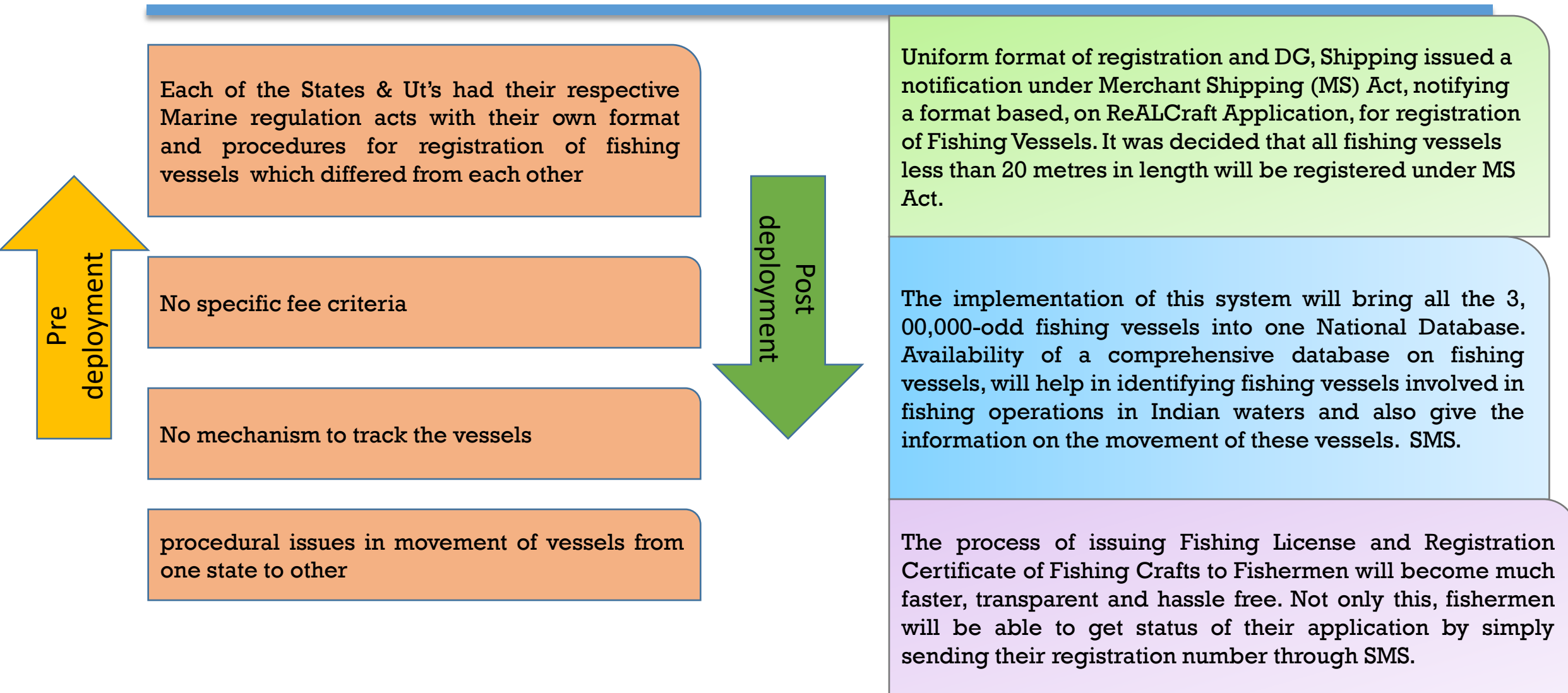
Pre  
deployment

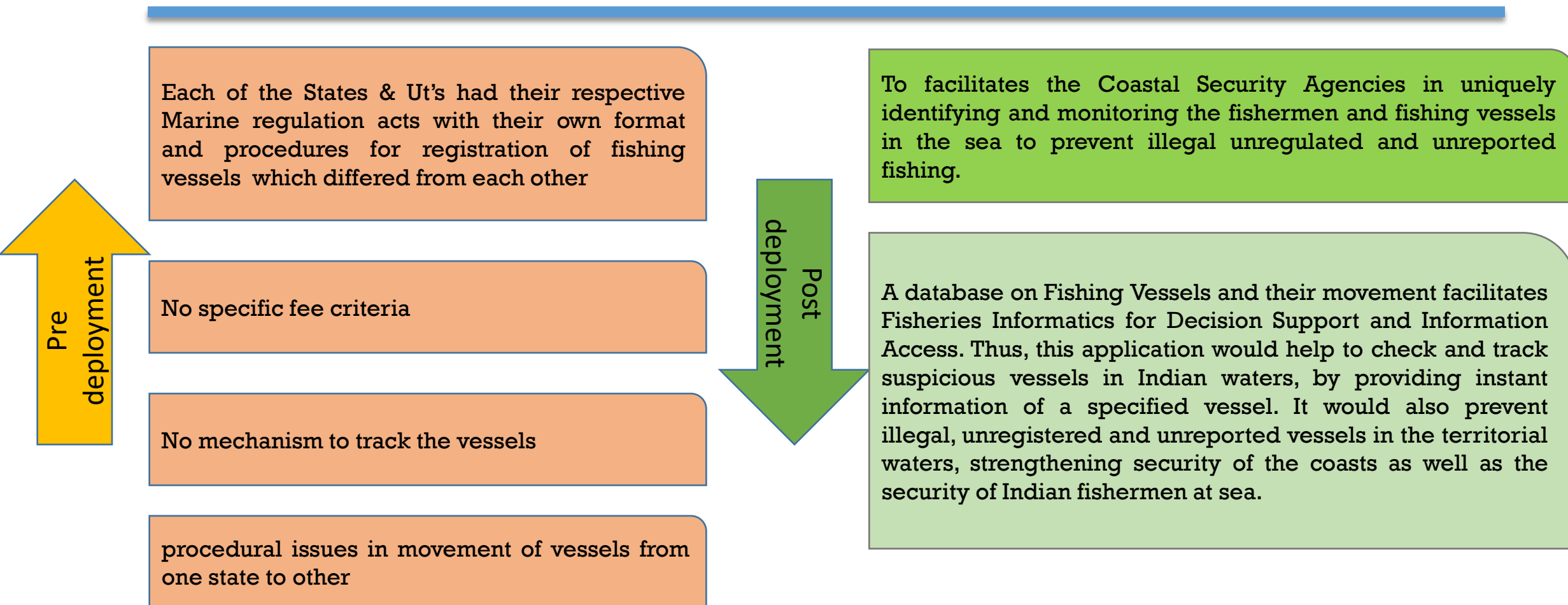
Each of the States & Ut's had their respective Marine regulation acts with their own format and procedures for registration of fishing vessels which differed from each other

No specific fee criteria

No mechanism to track the vessels

procedural issues in movement of vessels from one state to other





## Way forward

Boat Building Yard registration, provide Chassis No. for Vessels

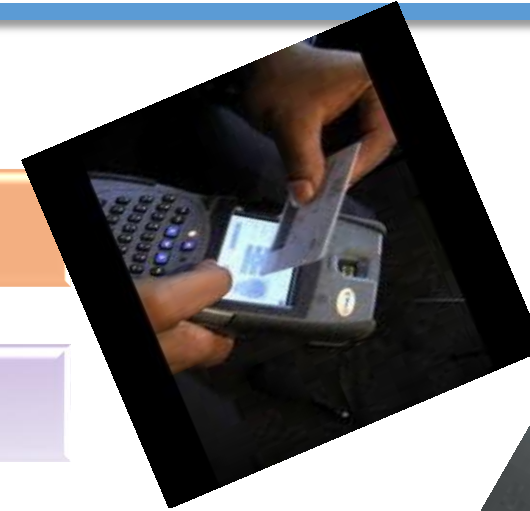
Interoperability framework & SSO **in progress**

Issuing smart card to fishing vessels, fishermen

Integrate SAGARA , rollout across the country **in progress**

Onboard Catch details in SAGARA mobile application

Networking of Marine Fish Landing Centers (~ 200) – similar to application AGMARKNET



Chip



Smart card

## Comparison

| YEAR    | NO.OF SERVICES | VOLUME OF TRANSACTIONS | USERS | RC    | LC    |
|---------|----------------|------------------------|-------|-------|-------|
| 2014-15 | 19             | 114026                 | 1000  | 35317 | 17941 |
| 2019-20 | 32             | 252052                 | 9995  | 32618 | 40503 |

### Fishing Permit

| Year | Nos |
|------|-----|
| 2020 | 27  |
| 2019 | 44  |
| 2018 | 1   |
| 2015 | 1   |
| 2014 | 2   |

### Marine Ambulance

| Year | Nos |
|------|-----|
| 2020 | 3   |

### Vessel Registration

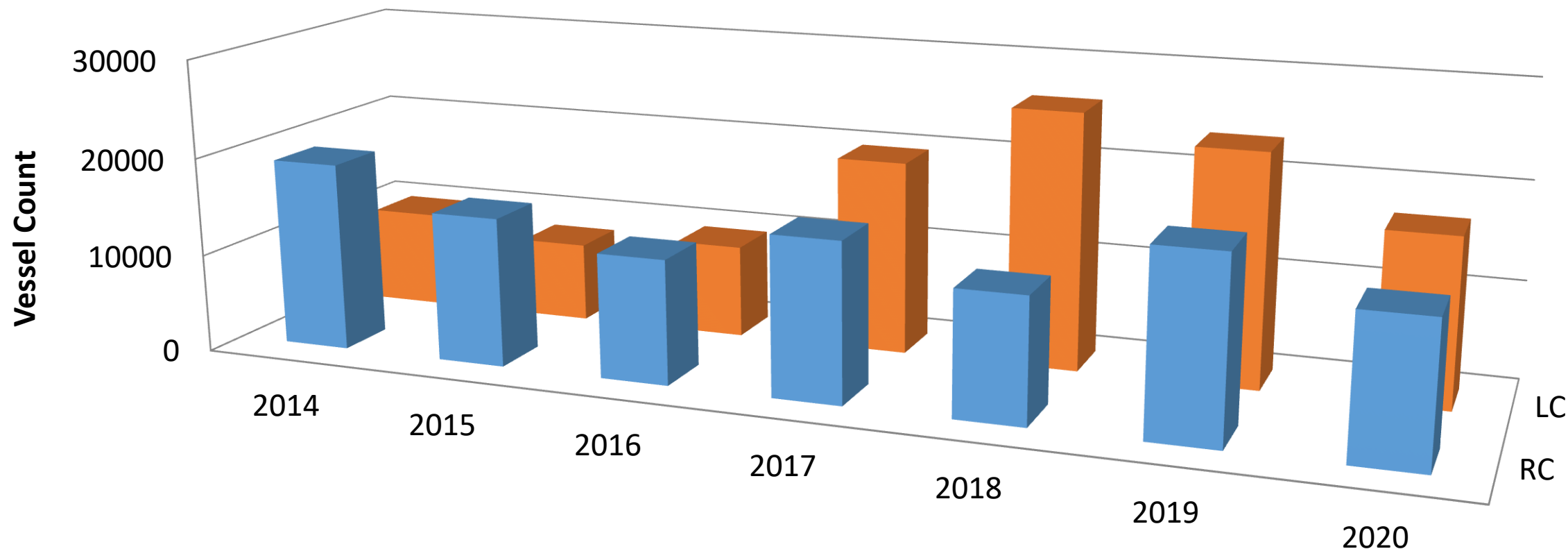
| Year | Nos   |
|------|-------|
| 2020 | 14249 |
| 2019 | 18369 |
| 2018 | 12643 |
| 2017 | 16137 |
| 2016 | 11923 |
| 2015 | 15150 |
| 2014 | 19167 |

### License Details

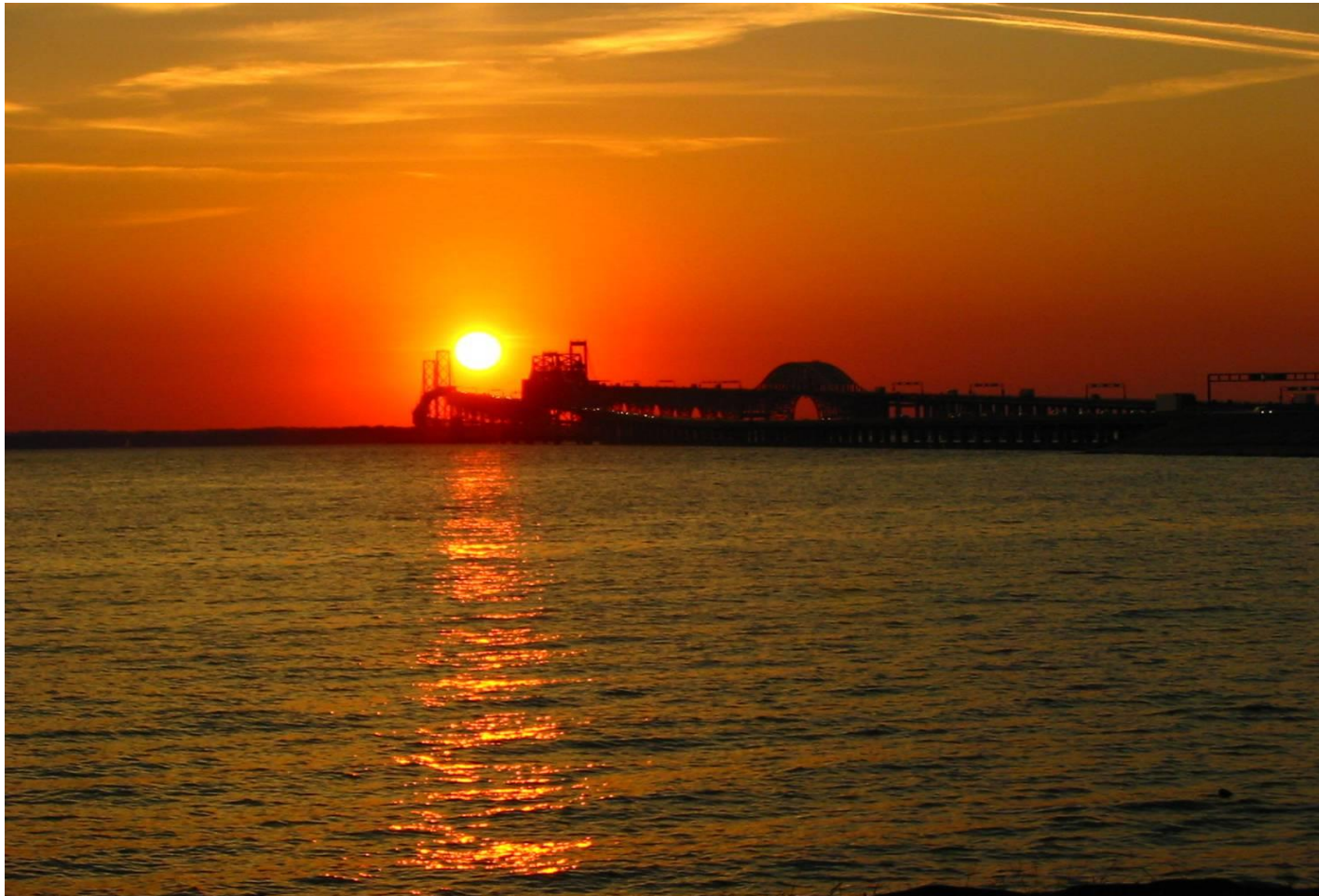
| Year | Nos   |
|------|-------|
| 2020 | 16964 |
| 2019 | 23539 |
| 2018 | 26065 |
| 2017 | 19693 |
| 2016 | 9444  |
| 2015 | 8073  |
| 2014 | 9868  |

# REGISTRATION AND LICENSING OF FISHING CRAFT

## RC & LC Statistics



|    | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  |
|----|-------|-------|-------|-------|-------|-------|-------|
| RC | 19167 | 15150 | 12643 | 16137 | 12643 | 18369 | 14249 |
| LC | 9868  | 8073  | 9444  | 19693 | 26065 | 23539 | 16964 |



**Thank You...**