



# SeaDataCloud

## WP5 – Metadata and data catalogues

- Status of the catalogues
- WP5 work plan, next steps

S. Iona, HCMR/HNODC

D. Schaap, MARIS

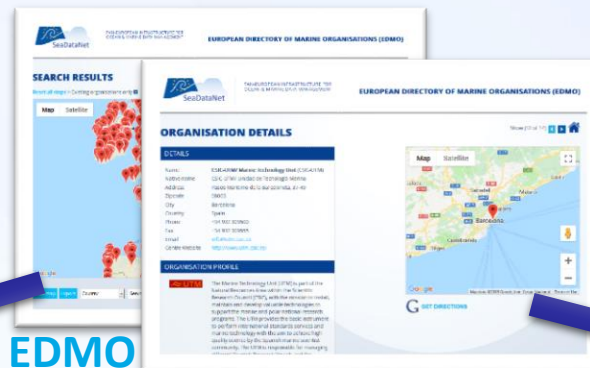
G. Hause, BSH

M. Hebden, BODC

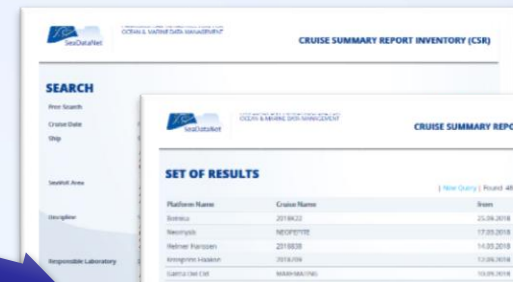
3<sup>rd</sup> Annual Meeting, Pôle Numérique, Plouzané, Brest, France, 17-18 October, 2019

[sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org) – [www.seadatanet.org](http://www.seadatanet.org)

# Metadata and data catalogues



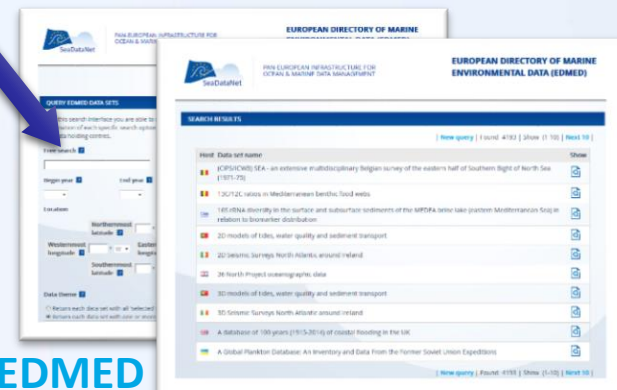
**EDMO**  
Organisations



**CSR**  
Cruises



**CDI**  
Data



**EDMED**  
Data sets



**EMERP**  
Projects



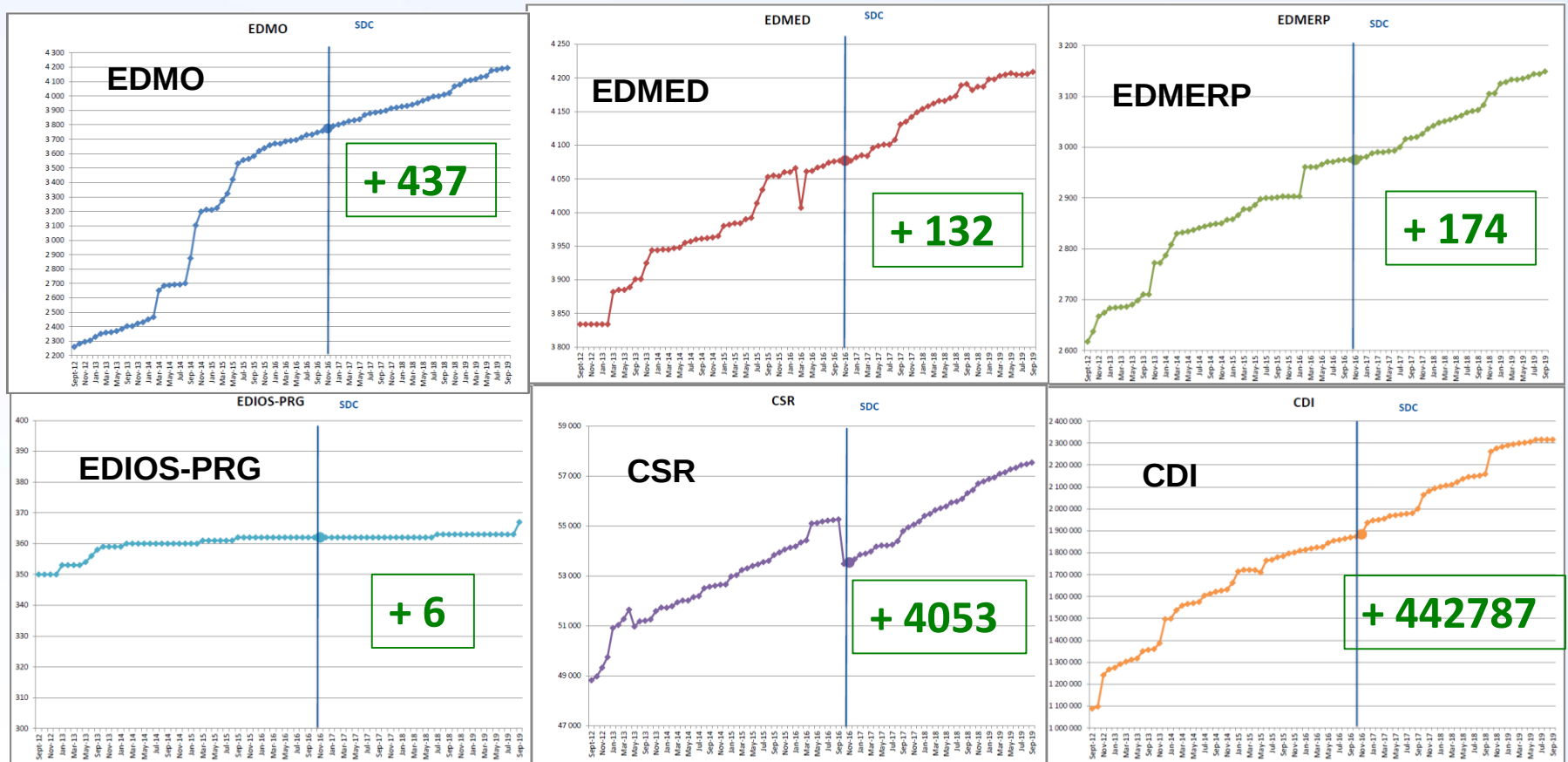
**EDIOS**  
Observatories

# Overall progress during the first three years, from all connected centres

| Catalogue | SDC start<br>(01/11/16) | Year 1<br>(01/11/17) | Year 2<br>(01/11/18) | Year 3<br>(30/09/19) | Increase<br>since the<br>start |
|-----------|-------------------------|----------------------|----------------------|----------------------|--------------------------------|
| EDMO      | 3 758                   | 3 899                | 4 021                | 4 195                | 437                            |
| EDMED     | 4 077                   | 4 135                | 4 182                | 4 209                | 132                            |
| EDMERP    | 2 975                   | 3 020                | 3 083                | 3 149                | 174                            |
| EDIOS-PRG | 362                     | 362                  | 363                  | 368                  | 6                              |
| CSR       | 53 484                  | 54 949               | 56 436               | 57 537               | 4 053                          |
| CDI       | 1 873 823               | 2 063 832            | 2 262 108            | 2 274 102            | 442 787                        |

|                 |     |
|-----------------|-----|
| SDC partners    | 42  |
| Other partners  | 71  |
| Total connected | 113 |

# Increasing trends in all catalogues



Monthly distributions of each catalogue since September 2012 (SDN2).

Blue lines denote the start of SDC Project.

# Catalogues progress at the 3<sup>rd</sup> year

# EDMO Progress by SDC collator



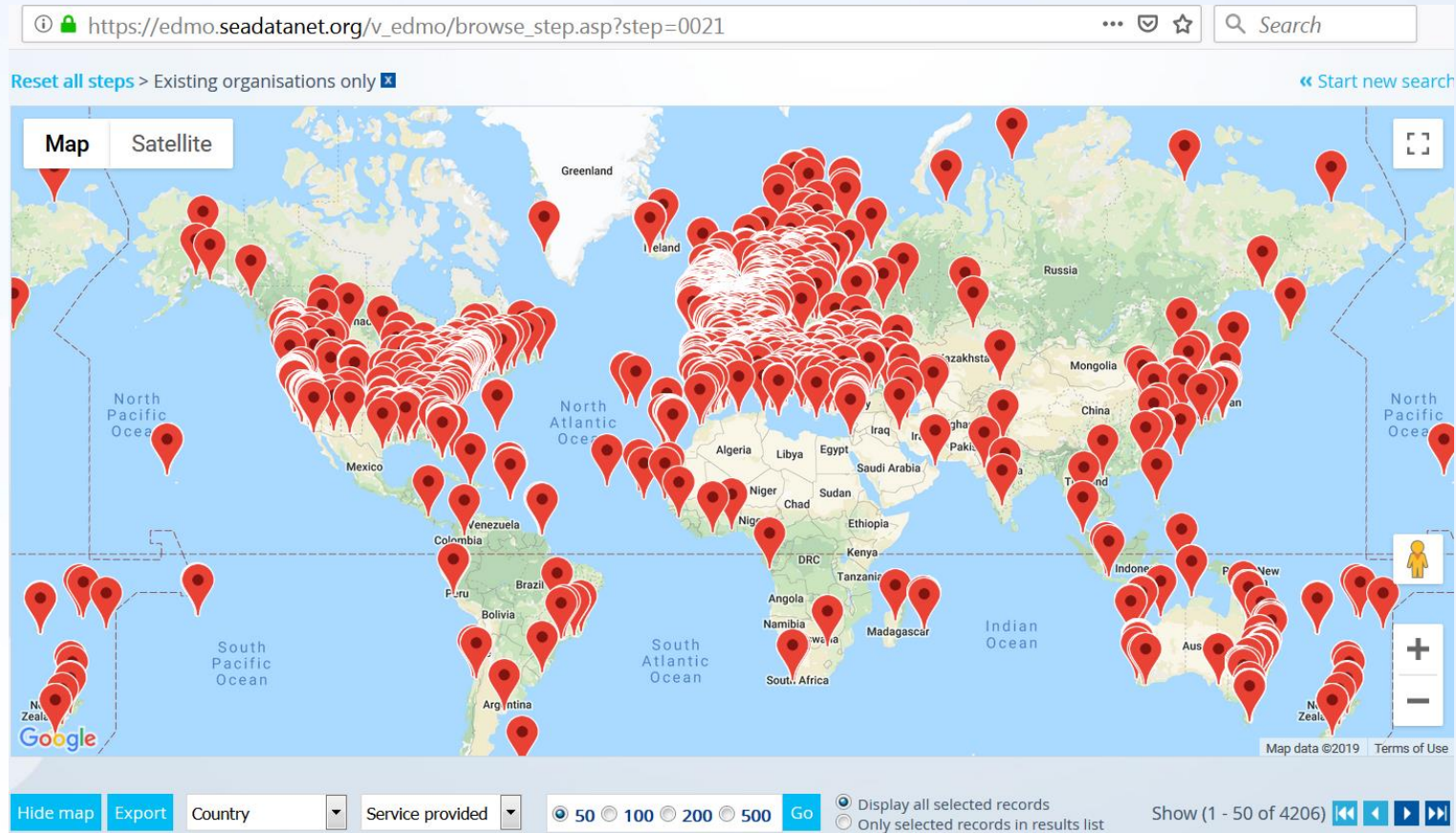
|               |            |                    | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(30/9/2019) |     |         |
|---------------|------------|--------------------|--------------------------|----------------------|----------------------|----------------------|-----|---------|
| Collator      | EDMO       | Country            | total                    | total                | total                | total                | new | updates |
| UKRI-BODC     | 43         | United Kingdom     | 654                      | 672                  | 703                  | 745                  | 42  | 10      |
| BSH-DOD       | 96         | Germany            | 244                      | 250                  | 269                  | 277                  | 8   | 47      |
| OGS           | 120        | Italy              | 56                       | 59                   | 71                   | 83                   | 12  | 4       |
| IMGW          | 193        | Poland             | 31                       | 33                   | 33                   | 33                   | 0   | 1       |
| HCMR-HNODC    | 269        | Greece             | 14                       | 15                   | 20                   | 25                   | 5   | 0       |
| IEO           | 353        | Spain              | 119                      | 122                  | 131                  | 133                  | 2   | 16      |
| MI            | 396        | Ireland            | 97                       | 100                  | 102                  | 105                  | 3   | 1       |
| IFREMER       | 486        | France             | 327                      | 347                  | 372                  | 386                  | 14  | 25      |
| SMHI          | 545        | Sweden             | 50                       | 82                   | 123                  | 127                  | 4   | 5       |
| MRI           | 583        | Iceland            | 5                        | 6                    | 7                    | 7                    | 0   | 0       |
| IHPT          | 590        | Portugal           | 23                       | 24                   | 27                   | 31                   | 4   | 3       |
| IMR           | 612        | Norway             | 61                       | 64                   | 67                   | 67                   | 0   | 2       |
| NODC, NIOZ    | 575, 630   | Netherlands        | 62                       | 64                   | 68                   | 70                   | 2   | 10      |
| RIHMI-WDC     | 681        | Russian Federation | 38                       | 38                   | 38                   | 39                   | 1   | 0       |
| SIO-RAS       | 685        | Ukraine            | 6                        | 6                    | 6                    | 6                    | 0   | 0       |
| IO-BAS        | 692        | Bulgaria           | 9                        | 17                   | 17                   | 20                   | 3   | 0       |
| TSU-DNA       | 693        | Georgia            | 13                       | 13                   | 14                   | 16                   | 2   | 0       |
| METU-IMS      | 696        | Turkey             | 27                       | 30                   | 30                   | 31                   | 1   | 3       |
| NIMRD         | 697        | Romania            | 15                       | 15                   | 15                   | 16                   | 1   | 0       |
| LHEI          | 698        | Latvia             | 10                       | 15                   | 15                   | 23                   | 8   | 1       |
| IOF           | 700        | Croatia            | 2                        | 2                    | 4                    | 5                    | 1   | 1       |
| UOM           | 708        | Malta              | 1                        | 3                    | 4                    | 4                    | 0   | 0       |
| ISRAMAR, IORL | 710, 963   | Israel             | 5                        | 6                    | 10                   | 11                   | 1   | 1       |
| MSI           | 713        | Estonia            | 14                       | 14                   | 16                   | 16                   | 0   | 1       |
| AU-DMU        | 729        | Denmark            | 56                       | 62                   | 64                   | 66                   | 2   | 1       |
| SYKE, FMI     | 1104, 1725 | Finland            | 50                       | 62                   | 67                   | 74                   | 7   | 13      |
| NIB           | 1229       | Slovenia           | 2                        | 3                    | 7                    | 8                    | 1   | 2       |
| INSTM         | 1232       | Tunisia            | 1                        | 1                    | 1                    | 1                    | 0   | 0       |
| RBINS         | 1578       | Belgium            | 133                      | 133                  | 136                  | 137                  | 1   | 6       |
| IMBK          | 2432       | Montenegro         | 8                        | 9                    | 9                    | 9                    | 0   | 0       |
| UTM-CSIC      | 2489       | Spain              | 10                       | 10                   | 10                   | 10                   | 0   | 10      |
| ORION         | 4537       | Cyprus             | 2                        | 2                    | 2                    | 3                    | 1   | 2       |
| Totals        |            |                    | 2145                     | 2279                 | 2458                 | 2584                 | 126 | 165     |

Overall progress  
of **~20%** increase  
since the **SDC**  
start

Constant increase  
**~6%** per year

# Marine Organizations (EDMO)

10/10/2019



Global coverage due to the use of EDMO as a reference catalogue in other EU Projects and International cooperation (USA, Australia)

# EDMED Progress by SDC collator

|                                   |                     |                    | SDC start<br>(1/11/2016) | Year 1<br>(1/11/2017) | Year 2<br>(1/11/2018) | Year 3<br>(1/10/2019) |     |         |
|-----------------------------------|---------------------|--------------------|--------------------------|-----------------------|-----------------------|-----------------------|-----|---------|
| Collator                          | EDMO                | Country            | total                    | total                 | total                 | total                 | new | updates |
| UKRI-BODC                         | 43                  | United Kingdom     | 789                      | 803                   | 840                   | 858                   | 21  | 39      |
| BSH-DOD                           | 96                  | Germany            | 179                      | 179                   | 179                   | 179                   | 0   | 0       |
| OGS                               | 120                 | Italy              | 279                      | 291                   | 305                   | 305                   | 0   | 0       |
| CNR, CNR-SP, CNR Venezia, CNR-IIA | 149, 134, 227, 2863 | Italy              | 0                        | 0                     | 3                     | 3                     | 0   | 0       |
| IMGW                              | 193                 | Poland             | 109                      | 107                   | 107                   | 107                   | 0   | 0       |
| HCMR/HNODC                        | 269                 | Greece             | 288                      | 310                   | 310                   | 310                   | 0   | 0       |
| IEO                               | 353                 | Spain              | 355                      | 355                   | 355                   | 356                   | 1   | 1       |
| MI                                | 396                 | Ireland            | 127                      | 127                   | 113                   | 113                   | 0   | 113     |
| VLIZ                              | 422                 | Belgium            | 102                      | 102                   | 102                   | 102                   | 0   | 0       |
| IFREMER                           | 486                 | France             | 237                      | 237                   | 239                   | 239                   | 0   | 1       |
| SHOM                              | 540                 | France             | 5                        | 6                     | 6                     | 7                     | 1   | 0       |
| SMHI                              | 545                 | Sweden             | 100                      | 99                    | 99                    | 99                    | 0   | 0       |
| NODC                              | 575                 | Netherlands        | 185                      | 185                   | 185                   | 185                   | 0   | 0       |
| MRI                               | 583                 | Iceland            | 12                       | 12                    | 12                    | 12                    | 0   | 0       |
| IHPT                              | 590                 | Portugal           | 214                      | 214                   | 214                   | 218                   | 4   | 0       |
| IMR*                              | 612                 | Norway             | 41                       | 41                    | 41                    | 41                    | 0   | 0       |
| RIHMI-WDC                         | 681                 | Russian Federation | 95                       | 95                    | 95                    | 95                    | 0   | 0       |
| SIO-RAS                           | 685                 | Ukraine            | 37                       | 37                    | 37                    | 37                    | 0   | 0       |
| IO-BAS                            | 692                 | Bulgaria           | 33                       | 33                    | 33                    | 34                    | 1   | 1       |
| TSU-DNA                           | 693                 | Georgia            | 416                      | 416                   | 416                   | 416                   | 0   | 0       |
| METU-IMS                          | 696                 | Turkey             | 53                       | 53                    | 53                    | 53                    | 0   | 0       |
| NIMRD                             | 697                 | Romania            | 68                       | 75                    | 75                    | 75                    | 0   | 0       |
| LHEI                              | 698                 | Latvia             | 28                       | 28                    | 28                    | 29                    | 1   | 0       |
| IOF                               | 700                 | Croatia            | 12                       | 12                    | 12                    | 12                    | 0   | 0       |
| UOM                               | 708                 | Malta              | 29                       | 29                    | 34                    | 39                    | 5   | 0       |
| ISRAMAR, IORL                     | 710, 963            | Israel             | 6                        | 6                     | 6                     | 6                     | 0   | 0       |
| MSI                               | 713                 | Estonia            | 16                       | 16                    | 16                    | 16                    | 0   | 0       |
| AU-DMU                            | 729                 | Denmark            | 35                       | 35                    | 35                    | 35                    | 0   | 0       |
| ICES                              | 730                 | Denmark            | 21                       | 21                    | 21                    | 21                    | 0   | 0       |
| SYKE, FMI                         | 1104, 1725          | Finland            | 38                       | 38                    | 38                    | 38                    | 0   | 0       |
| NIB                               | 1229                | Slovenia           | 1                        | 1                     | 1                     | 1                     | 0   | 0       |
| INSTM                             | 1232                | Tunisia            | 1                        | 2                     | 2                     | 2                     | 0   | 0       |
| RBINS                             | 1578                | Belgium            | 98                       | 98                    | 98                    | 98                    | 0   | 0       |
| IBMK                              | 2432                | Montenegro         | 2                        | 2                     | 4                     | 4                     | 0   | 0       |
| CNRS/MIO                          | 3078                | France             | 0                        | 5                     | 2                     | 2                     | 0   | 0       |
| Totals                            |                     |                    | 4011                     | 4070                  | 4116                  | 4147                  | 34  | 155     |

Overall progress of  
~3% increase since  
the SDC start

Constant increase  
~1% per year

\*95 updates currently being  
processed

# EDMERP Progress by SDC collator

|                              |                               |                    | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(30/9/2019) |           |           |
|------------------------------|-------------------------------|--------------------|--------------------------|----------------------|----------------------|----------------------|-----------|-----------|
| Institute                    | EDMO                          | Country            | total                    | total                | total                | total                | new       | updates   |
| UKRI-BODC                    | 43                            | United Kingdom     | 315                      | 316                  | 322                  | 331                  | 9         | 2         |
| BSH-DOD                      | 96 , 100, 2579                | Germany            | 128                      | 134                  | 159                  | 179                  | 20        | 0         |
| OGS                          | 120, 2276, 124                | Italy              | 92                       | 93                   | 102                  | 107                  | 5         | 1         |
| IMGW                         | 193                           | Poland             | 54                       | 54                   | 54                   | 55                   | 1         | 0         |
| HCMR-HNODC                   | 269                           | Greece             | 111                      | 112                  | 112                  | 112                  | 0         | 0         |
| IEO                          | 353                           | Spain              | 247                      | 247                  | 249                  | 250                  | 1         | 0         |
| MI                           | 396                           | Ireland            | 220                      | 221                  | 221                  | 221                  | 0         | 0         |
| VLIZ                         | 422                           | Belgium            | 152                      | 152                  | 153                  | 153                  | 0         | 0         |
| IFREMER                      | 486                           | France             | 162                      | 172                  | 175                  | 175                  | 0         | 2         |
| SMHI                         | 545, 618                      | Sweden             | 23                       | 23                   | 26                   | 27                   | 1         | 0         |
| NODC, NIOZ,<br>Utrecht Univ. | 575, 630, 2601                | Netherlands        | 199                      | 199                  | 200                  | 200                  | 0         | 1         |
| MRI                          | 583                           | Iceland            | 8                        | 8                    | 8                    | 8                    | 0         | 0         |
| IHPT                         | 590                           | Portugal           | 40                       | 40                   | 40                   | 43                   | 3         | 0         |
| IMR                          | 612                           | Norway             | 59                       | 59                   | 59                   | 59                   | 0         | 0         |
| RIHMI-WDC                    | 681                           | Russian Federation | 111                      | 111                  | 111                  | 111                  | 0         | 0         |
| SIO-RAS                      | 685                           | Russian Federation | 47                       | 47                   | 47                   | 48                   | 1         | 0         |
| IO-BAS                       | 692                           | Bulgaria           | 52                       | 58                   | 56                   | 60                   | 2         | 0         |
| TSU-DNA                      | 693                           | Georgia            | 142                      | 143                  | 144                  | 144                  | 0         | 0         |
| METU-IMS                     | 696                           | Turkey             | 115                      | 130                  | 130                  | 137                  | 7         | 0         |
| NIMRD                        | 697                           | Romania            | 46                       | 47                   | 47                   | 50                   | 3         | 0         |
| LHEI                         | 698                           | Latvia             | 31                       | 31                   | 31                   | 34                   | 3         | 0         |
| IOF                          | 700                           | Croatia            | 17                       | 17                   | 17                   | 18                   | 1         | 0         |
| UOM                          | 708                           | Malta              | 32                       | 33                   | 33                   | 33                   | 0         | 0         |
| ISRAMAR, IORL                | 710,963                       | Israel             | 4                        | 4                    | 4                    | 4                    | 0         | 0         |
| MSI                          | 713                           | Estonia            | 46                       | 50                   | 62                   | 66                   | 4         | 0         |
| AU-DMU                       | 729, 743, 793,<br>1099, 2077, | Denmark            | 49                       | 49                   | 49                   | 54                   | 5         | 2         |
| ICES                         | 730                           | Denmark            | 4                        | 4                    | 4                    | 6                    | 2         | 0         |
| SYKE                         | 1104                          | Finland            | 0                        | 0                    | 1                    | 1                    | 0         | 0         |
| NIB                          | 1229                          | Slovenia           | 11                       | 11                   | 11                   | 12                   | 1         | 0         |
| INSTM                        | 1232                          | Tunisia            | 31                       | 31                   | 31                   | 31                   | 0         | 0         |
| RBINS                        | 1578                          | Belgium            | 185                      | 185                  | 185                  | 185                  | 0         | 0         |
| IMBK                         | 2432                          | Montenegro         | 6                        | 7                    | 7                    | 8                    | 1         | 0         |
| CNRS/MIO                     | 3078                          | France             | 0                        | 0                    | 0                    | 0                    | 0         | 0         |
| ORION                        | 4537                          | Cyprus             | 11                       | 11                   | 11                   | 12                   | 1         | 11        |
| <b>Totals</b>                |                               |                    | <b>2750</b>              | <b>2799</b>          | <b>2861</b>          | <b>2934</b>          | <b>71</b> | <b>19</b> |

Overall progress  
of ~7% increase  
since the SDC  
start

Constant increase  
~2% per year

# EDIOS Progress

| Institute                          | EDMO                 | Country        | SDC start (1/11/2016) |        | 01/11/2016-29/10/2018 |               |            | 30/10/2018-01/10/2019 |               |            |
|------------------------------------|----------------------|----------------|-----------------------|--------|-----------------------|---------------|------------|-----------------------|---------------|------------|
|                                    |                      |                | Progs                 | Series | Progs                 | New Platforms | New Series | New Progs             | New Platforms | New Series |
| UKRI-BODC                          | 43                   | United Kingdom | 275                   | 15123  |                       |               |            |                       |               |            |
| BSH-DOD                            | 96                   | Germany        | 1                     | 10     |                       |               |            |                       |               |            |
| OGS                                | 120                  | Italy          | 3                     | 10     |                       |               |            |                       |               |            |
| ENEA                               | 136                  | Italy          | 26                    | 28     |                       |               |            |                       |               |            |
| CNR/(CNR-SP, CNR Venezia, CNR-IIA) | 149/(134, 227, 2863) | Italy          | 2                     | 6      | 1                     | 7             | 2          |                       |               |            |
| HCMR                               | 269                  | Greece         | 1                     | 8      |                       |               |            |                       |               |            |
| IEO                                | 353                  | Spain          | 4                     | 43     |                       |               |            |                       |               |            |
| MI                                 | 396                  | Ireland        | 12                    | 73     | 1                     | 1             | 5          |                       |               |            |
| IFREMER                            | 486                  | France         | 27                    | 991    |                       |               |            |                       |               |            |
| SHOM*                              | 540                  | France         |                       |        |                       |               |            | 1                     | 2             | 1          |
| SMHI                               | 545                  | Sweden         | 2                     | 25     |                       |               |            | 1                     | 2             | 1          |
| IHPT                               | 590                  | Portugal       | 1                     | 14     |                       |               |            |                       | 6             | 9          |
| IMR                                | 612                  | Norway         | 4                     | 279    |                       |               |            |                       |               |            |
| MSI                                | 713                  | Esthonia       | 2                     | 2      |                       |               |            |                       |               |            |
| NIB                                | 1229                 | Slovenia       | 1                     | 4      |                       |               |            |                       |               |            |
| IBMK                               | 2432                 | Montenegro     | 1                     | 2      |                       |               |            |                       |               |            |
| AZTI                               | 1623                 | Spain          |                       |        |                       |               |            | 1                     | 2             | 1          |
| SOCIB                              | 3410                 | Spain          |                       |        |                       |               |            | 1                     | 2             | 1          |
| IRD France **                      | 4486                 | France         |                       |        |                       |               |            | 1                     | 2             | 9          |
| INTECMAR                           | 4841                 | Spain          |                       |        |                       |               |            | 1                     | 2             | 2          |
| Totals                             |                      |                | 362                   | 16618  | 2                     | 8             | 7          | 4                     | 14            | 14         |

\* 1 x programme, 2 x platform, 1 x series awaiting ingestion

\*\* 1 x programme, 2 x platform, 9 x series awaiting further info before ingestion

# CSR Progress by SDC partner (1/2)

|            |      |                    | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(11/10/2019) |     |         |                        |
|------------|------|--------------------|--------------------------|----------------------|----------------------|-----------------------|-----|---------|------------------------|
| Institute  | EDMO | Country            | total                    | total                | total                | total                 | new | updates | new since<br>the start |
| UKRI-BODC  | 43   | United Kingdom     | 9563                     | 9564                 | 9568                 | 9570                  | 2   | 0       | 7                      |
| BSH-DOD    | 96   | Germany            | 2216                     | 2339                 | 2564                 | 2676                  | 112 | 25      | 460                    |
| OGS        | 120  | Italy              | 262                      | 291                  | 292                  | 301                   | 9   | 0       | 39                     |
| IMGW       | 193  | Poland             | 67                       | 73                   | 79                   | 84                    | 5   | 16      | 17                     |
| IOPAN      | 195  | Poland             | 21                       | 21                   | 21                   | 21                    | 0   | 0       | 0                      |
| HCMR/HNODC | 269  | Greece             | 260                      | 300                  | 377                  | 377                   | 0   | 0       | 117                    |
| IEO        | 353  | Spain              | 787                      | 965                  | 1272                 | 1372                  | 100 | 8       | 585                    |
| MI         | 396  | Ireland            | 755                      | 813                  | 840                  | 840                   | 0   | 0       | 85                     |
| VLIZ       | 422  | Belgium            | 686                      | 859                  | 859                  | 859                   | 0   | 0       | 173                    |
| IFREMER    | 486  | France             | 4197                     | 4511                 | 4833                 | 5314                  | 481 | 2210    | 1117                   |
| SMHI       | 545  | Sweden             | 1678                     | 1714                 | 1763                 | 1807                  | 44  | 5       | 129                    |
| MRI        | 583  | Iceland            | 73                       | 77                   | 86                   | 90                    | 4   | 3       | 17                     |
| IHPT       | 590  | Portugal           | 107                      | 108                  | 111                  | 116                   | 5   | 2       | 9                      |
| IMR        | 612  | Norway             | 3396                     | 3480                 | 3613                 | 3725                  | 112 | 67      | 329                    |
| NIOZ       | 630  | Netherlands        | 281                      | 289                  | 300                  | 312                   | 12  | 0       | 31                     |
| RIHMI-WDC  | 681  | Russian Federation | 20                       | 22                   | 68                   | 68                    | 0   | 0       | 48                     |
| SIO-RAS    | 685  | Russian Federation | 85                       | 85                   | 85                   | 85                    | 0   | 0       | 0                      |
| IO-BAS     | 692  | Bulgaria           | 99                       | 145                  | 152                  | 161                   | 9   | 6       | 62                     |
| TSU-DNA    | 693  | Georgia            | 23                       | 24                   | 24                   | 24                    | 0   | 0       | 1                      |
| METU-IMS   | 696  | Turkey             | 348                      | 404                  | 406                  | 429                   | 23  | 0       | 81                     |

# CSR Progress by SDC partner (2/2)

|               |      |            | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(11/10/2019) |             |             |                        |
|---------------|------|------------|--------------------------|----------------------|----------------------|-----------------------|-------------|-------------|------------------------|
| Institute     | EDMO | Country    | total                    | total                | total                | total                 | new         | updates     | new since<br>the start |
| METU-IMS      | 696  | Turkey     | 348                      | 404                  | 406                  | 429                   | 23          | 0           | 81                     |
| NIMRD         | 697  | Romania    | 111                      | 115                  | 115                  | 117                   | 2           | 1           | 6                      |
| LHEI          | 698  | Latvia     | 201                      | 206                  | 210                  | 210                   | 0           | 0           | 9                      |
| IOF           | 700  | Croatia    | 328                      | 328                  | 378                  | 378                   | 0           | 0           | 50                     |
| UOM           | 708  | Malta      | 5                        | 11                   | 55                   | 60                    | 5           | 0           | 55                     |
| MSI           | 713  | Estonia    | 208                      | 228                  | 264                  | 278                   | 14          | 0           | 70                     |
| AU-DMU        | 729  | Denmark    | 126                      | 129                  | 134                  | 137                   | 3           | 0           | 11                     |
| IORL          | 963  | Israel     | 45                       | 45                   | 45                   | 58                    | 13          | 1           | 13                     |
| SYKE          | 1104 | Finland    | 10                       | 10                   | 10                   | 13                    | 0           | 0           | 3                      |
| UkrSCES       | 1167 | Ukraine    | 24                       | 294                  | 0                    | 310                   | 16          | 0           | 286                    |
| NIB           | 1229 | Slovenia   | 307                      | 307                  | 383                  | 418                   | 35          | 0           | 111                    |
| INSTM         | 1232 | Tunisia    | 96                       | 97                   | 99                   | 100                   | 1           | 0           | 4                      |
| RBINS         | 1578 | Belgium    | 671                      | 685                  | 691                  | 698                   | 7           | 0           | 27                     |
| FMI           | 1725 | Finland    | 58                       | 58                   | 58                   | 62                    | 4           | 0           | 4                      |
| IMBK          | 2432 | Montenegro | 0                        | 119                  | 153                  | 183                   | 30          | 0           | 183                    |
| UTM-CSIC      | 2489 | Spain      | 242                      | 242                  | 337                  | 580                   | 243         | 458         | 338                    |
| <b>Totals</b> |      |            | <b>27356</b>             | <b>28958</b>         | <b>30245</b>         | <b>31833</b>          | <b>1291</b> | <b>2802</b> | <b>4477</b>            |

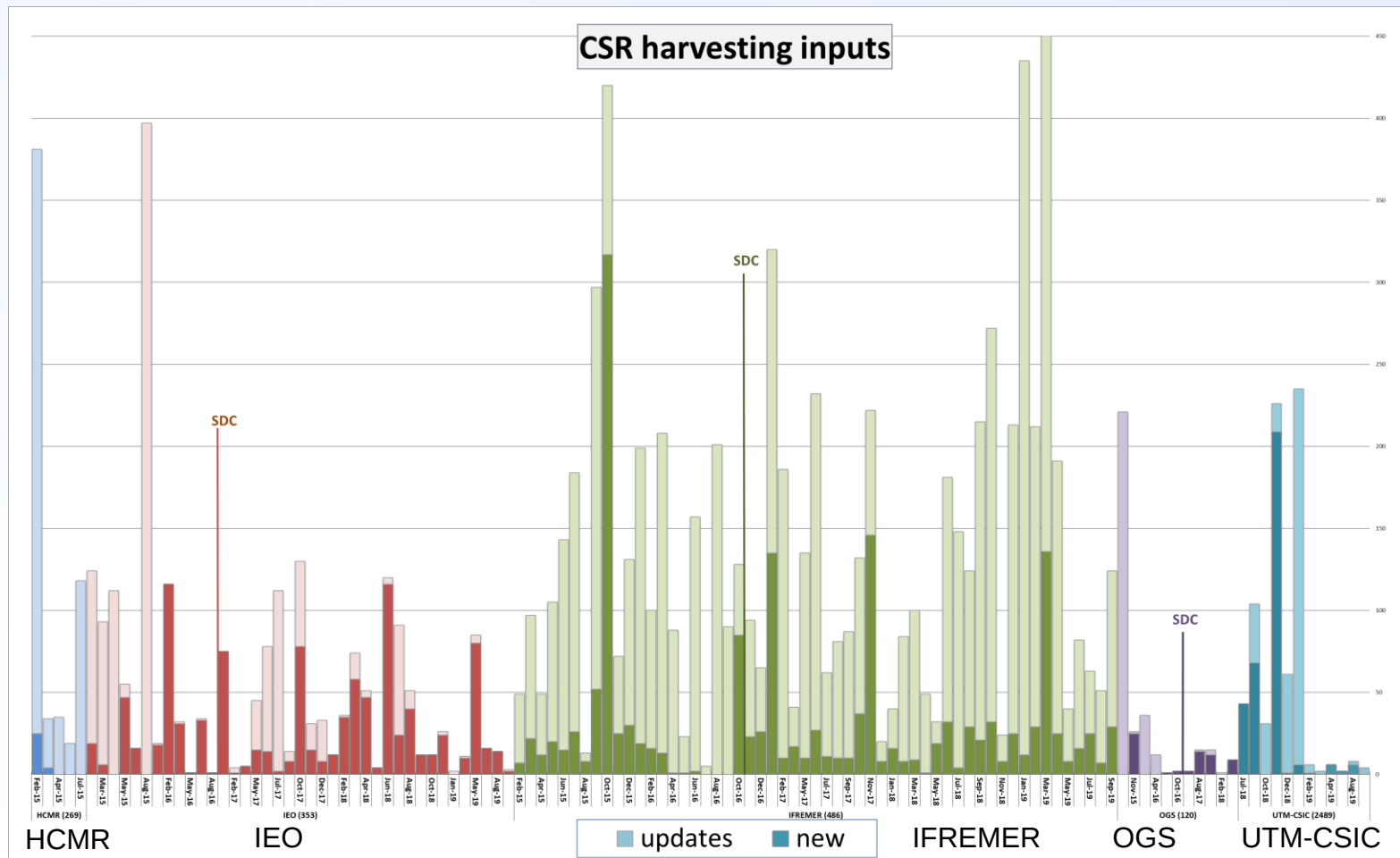
Overall progress of **~16%** increase since the **SDC start**

Constant increase **~5% per year**

## CSR Harvesting status

- Since the beginning of 2015, an **automatic transfer** of updated and new CSRs has been implemented between the central BSH portal and the distributed data centres
- Partners using this service:
  - IFREMER (France)
  - OGS (Italy)
  - IEO (Spain)
  - HCMR (Greece)
  - UTM-CSIC (Spain)

# CSR harvesting inputs since beginning of 2015



No change for HCMR since the beginning of SeaDataCloud (and since 2015)

# CDI Progress by SDC partner (1/2)

|              |      |                    | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(30/9/2019) |          |         |                        |
|--------------|------|--------------------|--------------------------|----------------------|----------------------|----------------------|----------|---------|------------------------|
| Institute    | EDMO | Country            | total                    | total                | total                | total                | new      | updates | new since<br>the start |
| UKRI-BODC    | 43   | United Kingdom     | 109673                   | 114128               | 122406               | 125020               | 2614     | 0       | 15347                  |
| BSH-DOD      | 96   | Germany            | 39268                    | 39268                | 40401                | 40401                | 0        | 0       | 1133                   |
| OGS          | 120  | Italy              | 101547                   | 106454               | 116552               | 130467               | 13915    | 58571   | 28920                  |
| ENEA         | 136  | Italy              | 9089                     | 9279                 | 9279                 | 9887                 | 608      | 0       | 798                    |
| CNR          | 149  | Italy              | 253                      | 552                  | 874                  | 874                  | 0        | 0       | 621                    |
| IMGW         | 193  | Poland             | 13110                    | 13110                | 13110                | 13110                | 0        | 2       | 0                      |
| IOPAN        | 195  | Poland             | 18                       | 18                   | 18                   | 2856                 | 2838     | 0       | 2838                   |
| HCMR/HNODC   | 269  | Greece             | 15972                    | 17331                | 19518                | 21536                | 2018     | 5234    | 5564                   |
| IEO          | 353  | Spain              | 40356                    | 42004                | 50516                | 53733                | 3217     | 2555    | 13377                  |
| MI           | 396  | Ireland            | 8234                     | 14187                | 18350                | 18359                | 9        | 7910    | 10125                  |
| VLIZ         | 422  | Belgium            | 3562                     | 3680                 | 3779                 | 3779                 | 0        | 0       | 217                    |
| IFREMER      | 486  | France             | 308354                   | 336484               | 460258               | 484611               | 24353    | 204041  | 176257                 |
| CNRS/OSU-SBR | 521  | France             | 0                        | 0                    | 2                    | 2                    | +3900    | 0       | 2                      |
| SHOM         | 540  | France             | 167912                   | 171010               | 174697               | 174697               | 0        | 167014  | 6785                   |
| SMHI         | 545  | Sweden             | 94284                    | 99686                | 99686                | 100123               | 437+3664 | 287     | 5839                   |
| MRI          | 583  | Iceland            | 5914                     | 7551                 | 8182                 | 8511                 | 329      | 0       | 2597                   |
| IHPT         | 590  | Portugal           | 6333                     | 6333                 | 6553                 | 6553                 | +26      | 0       | 220                    |
| IMR          | 612  | Norway             | 111627                   | 127519               | 128610               | 129022               | 412      | 24      | 17395                  |
| NIOZ         | 630  | Netherlands        | 6072                     | 6072                 | 6329                 | 6329                 | 0        | 25      | 257                    |
| RIHMI-WDC    | 681  | Russian Federation | 129959                   | 130541               | 134759               | 139242               | 4483     | 1       | 9283                   |
| SIO-RAS      | 685  | Russian Federation | 10441                    | 10471                | 10625                | 12384                | 1759     | 0       | 1943                   |
| IO-BAS       | 692  | Bulgaria           | 3479                     | 3806                 | 4569                 | 4642                 | 73       | 0       | 1163                   |

Overall progress of ~28% increase since the SDC start

Constant increase ~9% per year

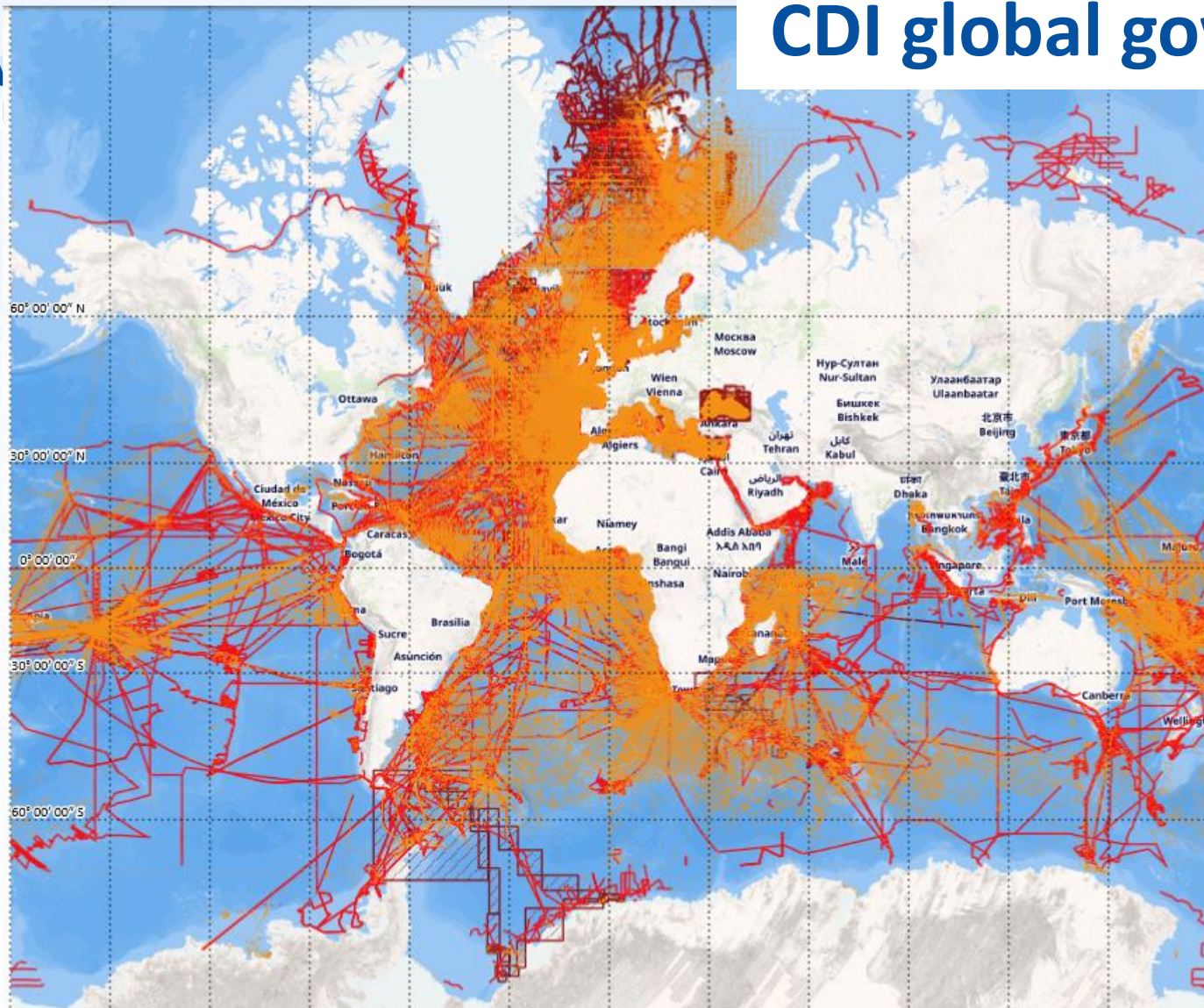
# CDI Progress by SDC partner (2/2)

|               |      |            | SDC start<br>(1/11/2016) | Year1<br>(1/11/2017) | Year2<br>(1/11/2018) | Year3<br>(30/9/2019) |              |               |                        |
|---------------|------|------------|--------------------------|----------------------|----------------------|----------------------|--------------|---------------|------------------------|
| Institute     | EDMO | Country    | total                    | total                | total                | total                | new          | updates       | new since<br>the start |
| TSU-DNA       | 693  | Georgia    | 951                      | 993                  | 1074                 | 1119                 | 45           | 3             | 168                    |
| METU-IMS      | 696  | Turkey     | 27997                    | 28513                | 30478                | 30478                | 0            | 0             | 2481                   |
| NIMRD         | 697  | Romania    | 6855                     | 8053                 | 8229                 | 8238                 | 9            | 45            | 1383                   |
| LHEI          | 698  | Latvia     | 3484                     | 3905                 | 4468                 | 4617                 | 149          | 1             | 1133                   |
| IOF           | 700  | Croatia    | 2233                     | 2233                 | 2484                 | 2924                 | 440          | 1             | 691                    |
| UOM           | 708  | Malta      | 1015                     | 1017                 | 1423                 | 1919                 | 496          | 0             | 904                    |
| MSI           | 713  | Estonia    | 26914                    | 27374                | 27427                | 27508                | 81           | 0             | 594                    |
| AU-DMU        | 729  | Denmark    | 223955                   | 239319               | 242023               | 242162               | 139          | 0             | 18207                  |
| ICES          | 730  | Denmark    | 21380                    | 81932                | 89688                | 89688                | 0            | 0             | 68308                  |
| IOLR          | 963  | Israel     | 5732                     | 5732                 | 7366                 | 7754                 | 388          | 56            | 2022                   |
| SYKE          | 1104 | Finland    | 6207                     | 11498                | 14561                | 14561                | 0            | 0             | 8354                   |
| UkrSCES       | 1167 | Ukraine    | 5365                     | 5663                 | 6114                 | 6114                 | +150         | 0             | 749                    |
| NIB           | 1229 | Slovenia   | 7662                     | 8015                 | 8289                 | 8916                 | 627          | 0             | 1254                   |
| INSTM         | 1232 | Tunisia    | 944                      | 952                  | 962                  | 973                  | 11           | 0             | 29                     |
| RBINS         | 1578 | Belgium    | 12329                    | 13350                | 13749                | 13749                | 0            | 8             | 1420                   |
| FMI           | 1725 | Finland    | 13500                    | 30682                | 30682                | 31922                | 1240         | 1             | 18422                  |
| IMBK          | 2432 | Montenegro | 706                      | 863                  | 946                  | 946                  | 0            | 77            | 240                    |
| UTM-CSIC      | 2489 | Spain      | 6                        | 28                   | 36                   | 36                   | +350         | 0             | 30                     |
| CNRS/MIO      | 3078 | France     | 0                        | 0                    | 67                   | 67                   | 0            | 0             | 67                     |
| ORION         | 4537 | Cyprus     | 0                        | 0                    | 63                   | 3596                 | 3533+2       | 0             | 3596                   |
| <b>Totals</b> |      |            | <b>1552692</b>           | <b>1729606</b>       | <b>1919202</b>       | <b>1983425</b>       | <b>60253</b> | <b>445856</b> | <b>430733</b>          |

- Include links with CSR references: Linked Data principle. Prepare EDMERP, EDMED, EDIOS descriptions where appropriate.

- Always check your data sets format with Octopus

# CDI global coverage



> 2.3 Million CDI entries for physics, chemistry, biology, geology and geophysics, from 1800 -2019, 89 % unrestricted data

## **Work plan and next plans**

# Missing data

- There are data from SDN partner's countries in the World Ocean Database but not included in the CDI (<https://www.nodc.noaa.gov/OC5/SELECT/dbsearch/dbsearch.html>)
  - Search Criteria: dataset, country

| SEARCH CRITERIA: ( <a href="#">definitions</a> )                                     | DEFAULT:                  |
|--------------------------------------------------------------------------------------|---------------------------|
| <input type="checkbox"/> Geographic Coordinates                                      | - whole world             |
| <input type="checkbox"/> Observation Dates - e.g., Year(s), Month(s), Day(s)         | - all years/months/days   |
| <input checked="" type="checkbox"/> Dataset - e.g., OSD, CTD, XBT                    | - all datasets            |
| <input type="checkbox"/> Measured Variables - e.g., Temperature, Salinity, Nutrients | - all available variables |
| <input type="checkbox"/> Biology - e.g., Phytoplankton, Zooplankton                  | - all available plankton  |
| <input type="checkbox"/> Deepest Measurement                                         | - all depths              |
| <input checked="" type="checkbox"/> Country                                          | - all countries           |
| <input type="checkbox"/> Ship/Platform                                               | - all ships/platforms     |
| <input type="checkbox"/> Cruise                                                      | - all cruises             |
| <input type="checkbox"/> Accession #                                                 | - all accessions          |
| <input type="checkbox"/> Project                                                     | - all projects            |
| <input type="checkbox"/> Institute                                                   | - all institutes          |
| <input type="checkbox"/> Data Exclusion Using WOD Quality Control Flags              | - no exclusion            |
| <input type="checkbox"/> Data Additions                                              | - WOD18 released data     |

Build a query

Reset

| Country     | CDI    | WOD    | Indicative differences per instr/platform type                                                                                                                                                        |
|-------------|--------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tunisia     | 973    | 353    | 280 bot of 1972 not included in CDI, 73 ctd of 1995 not included in CDI                                                                                                                               |
| Malta       | 1919   | 1518   | 1452 xbt in WOD and not in CDI                                                                                                                                                                        |
| Cyprus      | 3596   | 6288   | 5719 bathy and 334 GLD in WOD, but in WOD cyprus data are from Inst. Sismar, Scripps, Univ.of.Cyprus                                                                                                  |
| Bulgaria    | 7045   | 1273   | 1183 PFL in WOD (none in CDI)                                                                                                                                                                         |
| Portugal    | 7847   | 12750  | 3360 bathy in WOD                                                                                                                                                                                     |
| Iceland     | 8511   | 30421  | <ul style="list-style-type: none"> <li>• 20858 bottlet in WOD (none in CDI),</li> <li>• 4574 bathy in WOD (none in CDI)</li> </ul>                                                                    |
| Belgium     | 17948  | 13489  | <ul style="list-style-type: none"> <li>• 10800 bottle data in WOD (7406 in CDI),</li> <li>• 2246 bathy data in WOD (none in CDI)</li> </ul>                                                           |
| Ireland     | 18974  | 24633  | 3885 PFL in WOD (none in CDI)                                                                                                                                                                         |
| Greece      | 24416  | 12534  | 80 xbt in WOD and not in CDI                                                                                                                                                                          |
| Turkey      | 34310  | 9037   | <ul style="list-style-type: none"> <li>• 2029 floats in WOD (1824 in CDI ),</li> <li>• 307 xbt casts in WOD (none in CDI)</li> </ul>                                                                  |
| Spain       | 54949  | 34718  | <ul style="list-style-type: none"> <li>• 3196 bathy in WOD (none in CDI),</li> <li>• 3299 PFL in WOD (none in CDI),</li> <li>• 3208 GLD in WOD (none in CDI)</li> </ul>                               |
| Germany     | 55218  | 434322 | big diffs between two systems                                                                                                                                                                         |
| Netherlands | 61027  | 66055  | 1847 PFL in WOD (none in CDI)                                                                                                                                                                         |
| Sweden      | 105964 | 298228 | <ul style="list-style-type: none"> <li>• 289561 bot in WOD (63799 in CDI),</li> <li>• 8188 bathy on WOD and not in CDI,</li> </ul>                                                                    |
| Norway      | 135194 | 245587 | <ul style="list-style-type: none"> <li>• 114079 bot in WOD (42774 in CDI),</li> <li>• 103296 ctd in WOD (85247 in CDI)</li> </ul>                                                                     |
| Italy       | 154527 | 77706  | 9494 bathy in WOD (9767 in CDI) but in Mediterranean WOD has 4109 bathy data from 1957-1993, and 112 from 2017 which are not in CDI                                                                   |
| UK          | 157506 | 682299 | <ul style="list-style-type: none"> <li>• 143709 bot in WOD (67501 in CDI),</li> <li>• 98522 bathy in WOD (703 in CDI),</li> <li>• 73661 PFL in WOD (54 in CDI),</li> <li>• 9944 GLD in WOD</li> </ul> |

## Data differences per country between WOD and CDI

## Missing data

- Identify the data providers and integrate these data into the CDI system:
  - From external data sources: use the EMODnet Data Ingestion facility
  - From the national network: use the existing mechanisms and SeaDataNet tools

## Metadata enrichment

- There is still a considerable number of CDIs with no information on CSR, EDMERP, EDMED:
  - Include as many as possible linkages with the CSR, EDMERP, EDMED references
- Include as many as possible additional information, not only the mandatory one:
  - Instruments, platforms, Xbt fall rate equations, quality control methodologies