WATERBORNE

Waterborne Technology Platform

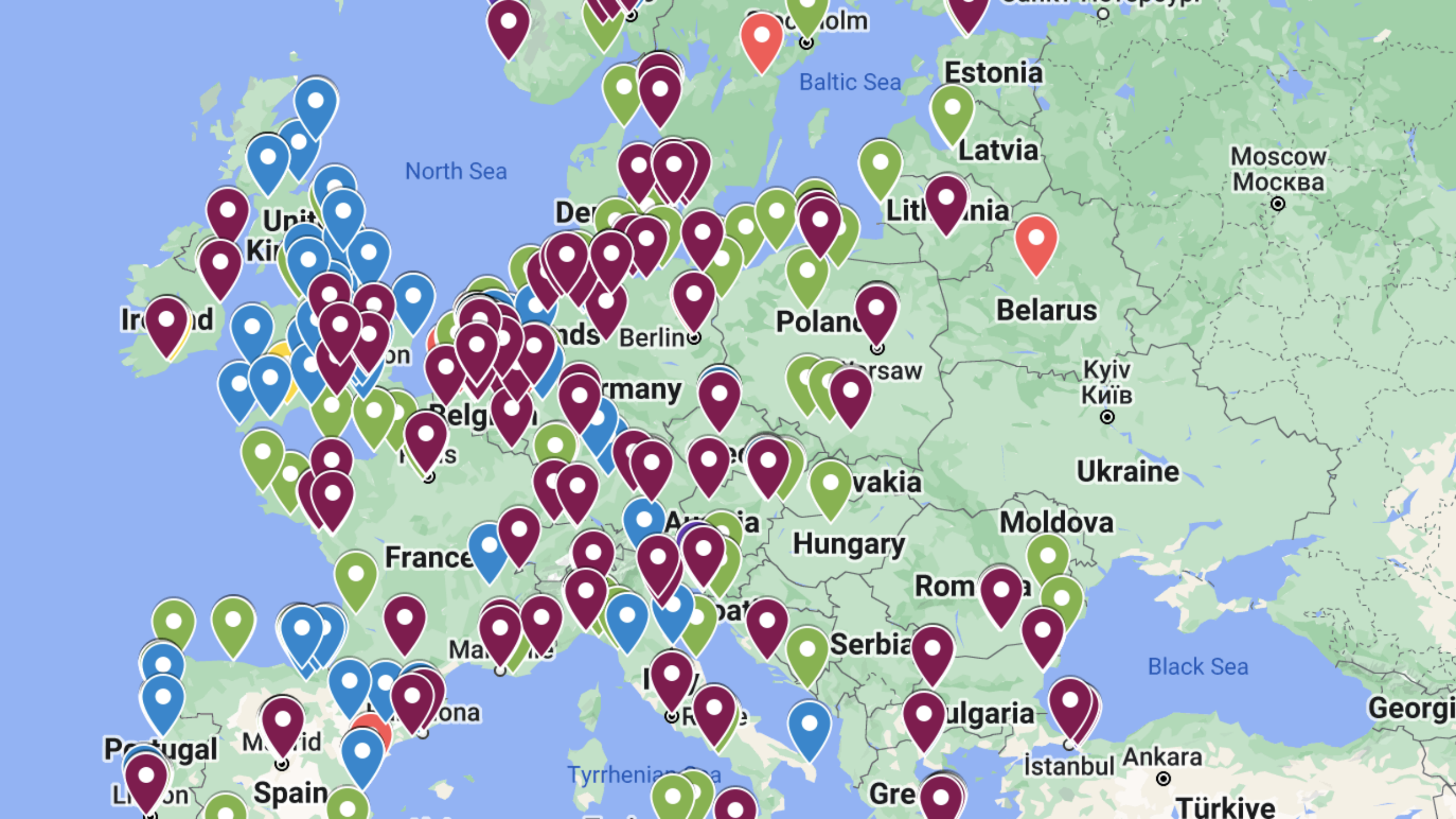
Maria Boile, Coordinator

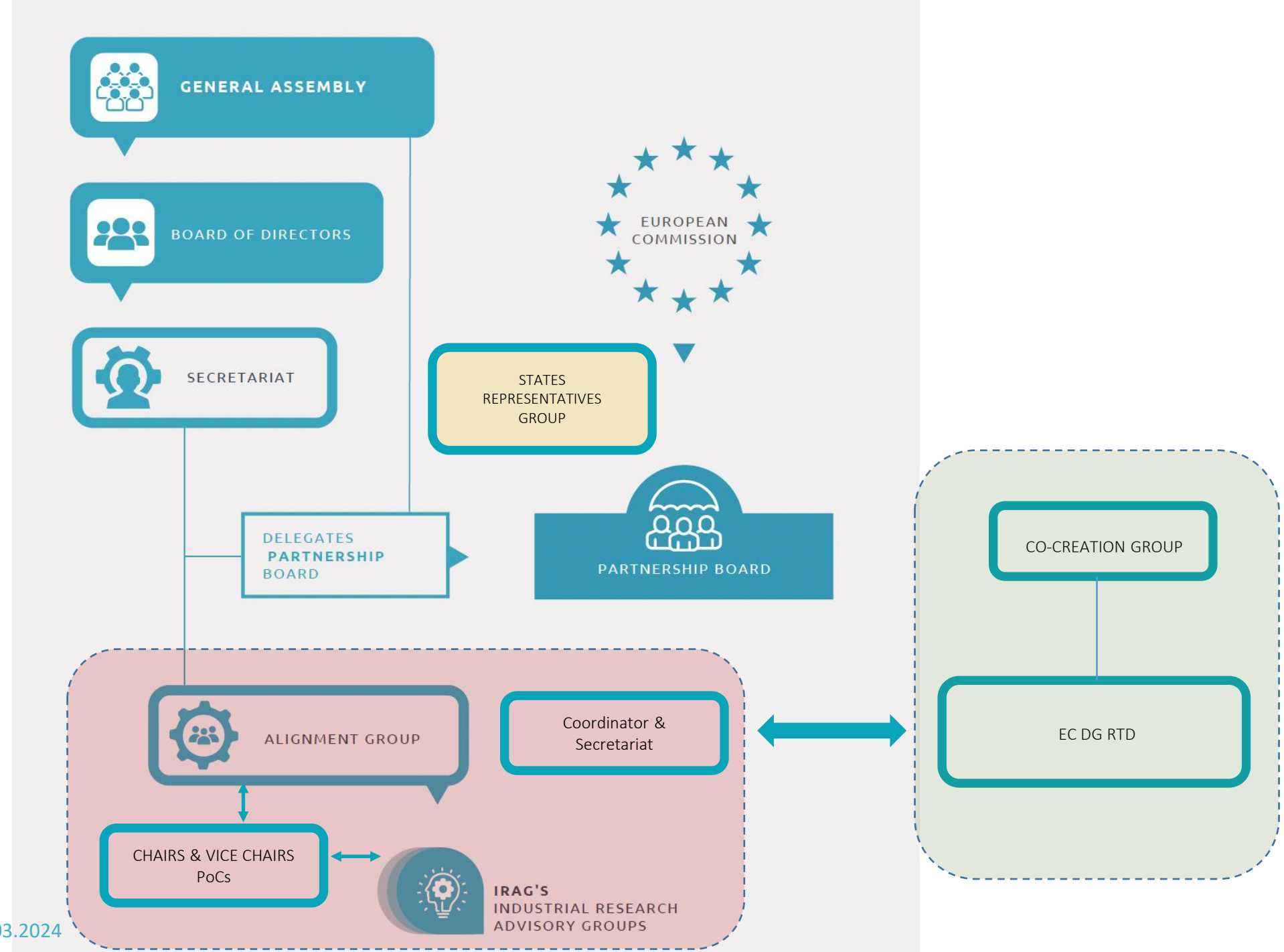
Gdańsk, 26th March 2024

Reporting - Alignment Group

- Roles and activities
- Strategic Research & Innovation Agendas (SRIAs)
- Process for SRIA update
- 2021 2022 Topics (and projects)
- 2023-2024 topics
- Process for 2025 topic development

Alignment Group – Roles and Activities


North Sea
Baltic Sea
Estonia
Latvia
Moscow
Москва
Belarus
Berlin
Kyiv
Київ
Ukraine
Moldova
Hungary
France
Spain
Black Sea
Tyrrhenian Sea
İstanbul
Ankara
Türkiye


GENERAL ASSEMBLY
BOARD OF DIRECTORS
SECRETARIAT
EUROPEAN COMMISSION
STATES REPRESENTATIVES GROUP
DELEGATES PARTNERSHIP BOARD
PARTNERSHIP BOARD
CO-CREATION GROUP
EC DG RTD
ALIGNMENT GROUP
Coordinator & Secretariat
CHAIRS & VICE CHAIRS PoCs
IRAG'S INDUSTRIAL RESEARCH ADVISORY GROUPS

Who is involved – roles and activities

Industrial Research Advisory Groups: main discussion groups on technical RD&I matters; define priorities, prepare the technological roadmap; give advice to the alignment group

Alignment Group: coordinate the technical RD&I matters of the Association

Maria Boile

Coordinator

Sebastiaan Bleuanus

Gregory Grigoropoulos

IRAG Ships & Shipping

Jorrit Harmsen

Jorge Miguel Lara López

IRAG Ports & Logistics

Emilio Campana

Nikolaos P. Ventikos

Jessica Hjerpe Olausson

IRAG Blue Growth

Who is involved – roles and activities

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Jessica Hjerpe Olausson

IRAG Blue Growth

Jaap Gebraad

Secretary General

Pieter Huyskens

Delegates Group chair

Stefano Deledda, Clean Hydrogen

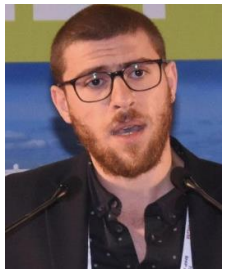
Erdeniz Erol, Industrial Battery VC

Salvador Furio Prunonosa, ALICE

Liaison Officers

Elena Ciappi, EU Mission: Restore our Oceans & Waters

Johannes Oeffner, Sustainable Blue Economy



Yannis Kalenteridis, Climate Neutral & Smart Cities

Carlos Guedes Soares, Implementation Review

Benoit Loicq, Chair, Member States Reference Group

Timothée Moulinier observer from SEA Europe

Strategic Research & Innovation Agendas

Strategic Research and Innovation Agendas

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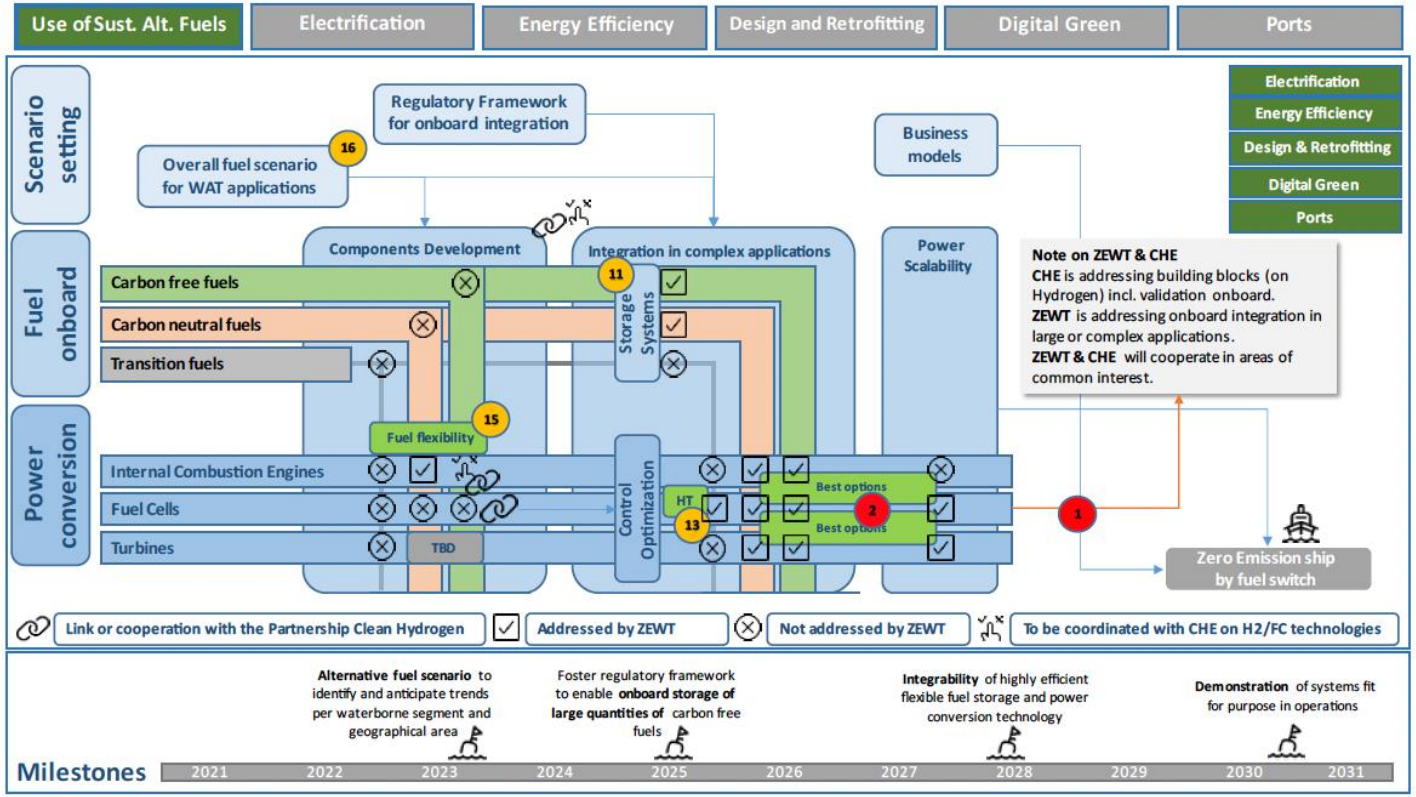
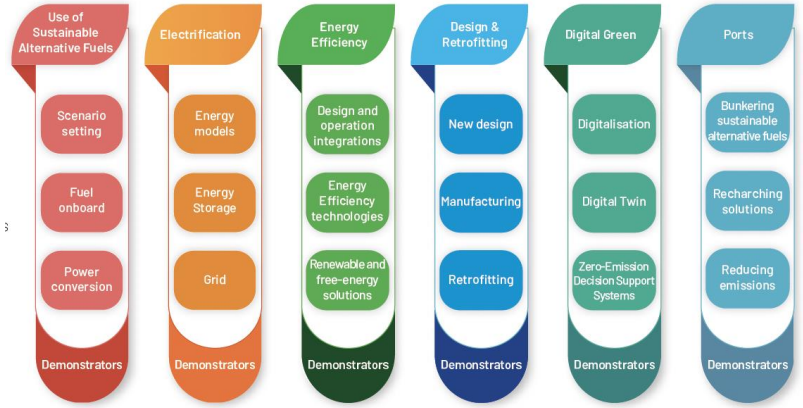




Use of Sus. Alt. Fuels	Electrification	Energy Efficiency	Design and Retrofitting	Digital Green	Ports

OPERATIONAL OBJECTIVES

Eliminating GHG emissions

- ✓ To develop and demonstrate solutions for the use of climate-natural, sustainable alternative fuels applicable to ships with high energy demand (e.g. long distance shipping) before 2030;
- To develop and demonstrate before 2030 solutions for the integration of high-capacity batteries solutions as single energy source for short distance shipping (up to 150 to 200 nautical miles);
- To develop and demonstrate solutions to be able to reduce the fuel consumption of waterborne transport, including by the use of non-fuel based propulsion (such as wind), by at least 55% before 2030, compared to 2008;
- To develop and demonstrate solutions for port based supply infrastruture (i.e. infrastructure for bunkering of alternative fuels and electricity) needed to enable zero-emission waterborn transport, to be implemented by 2030 at the latest;
- ✓ To develop solutions for clean and climate-neutral, climate-resilient inland waterway vessels before 2030.

Eliminating air pollution

- ✓ To develop and demonstrate solutions to cut coastal and inland pollution to air from inland waterway transport and maritime shipping by at least 50% by 2030, compared to current levels.

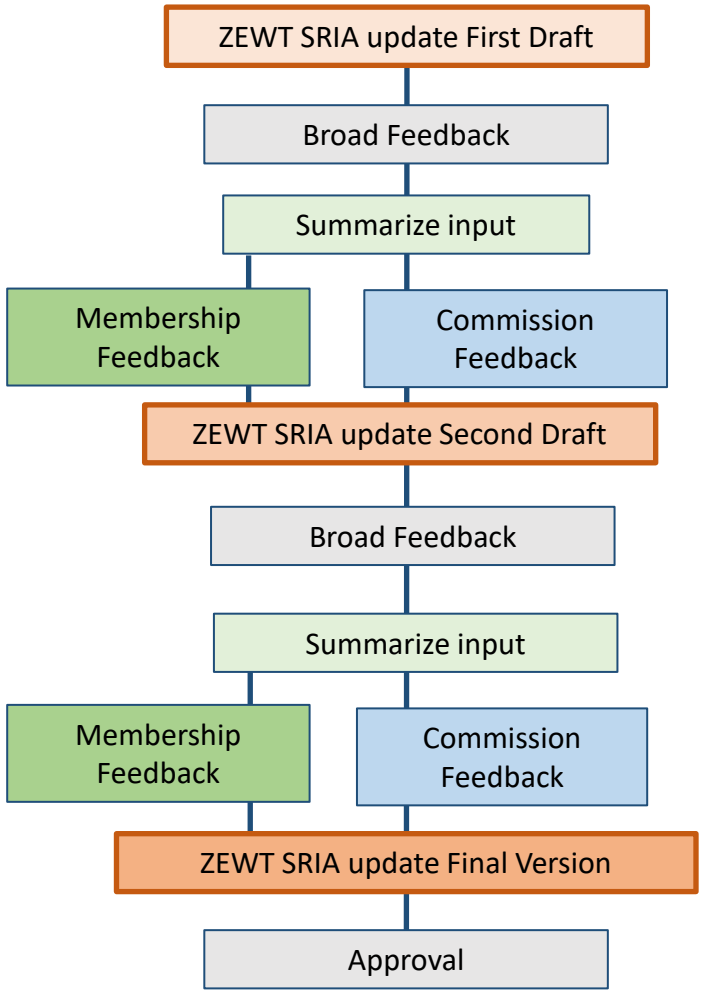
Eliminating water pollution

- ✓ To develop and demonstrate solutions to eliminate pollution to water (including harmful underwater noise) from ships, by 2030.

Process for SRIA update

ZEWT SRIA Update

Process



Who

- Coordinator, Relevant IRAG chairs & Vice chairs (Secretary General)
- WAT members
- ALL
- Commission services

What

- ZEWT SRIA First Version
- ZEWT SRIA Second Version
- ZEWT SRIA Final Version

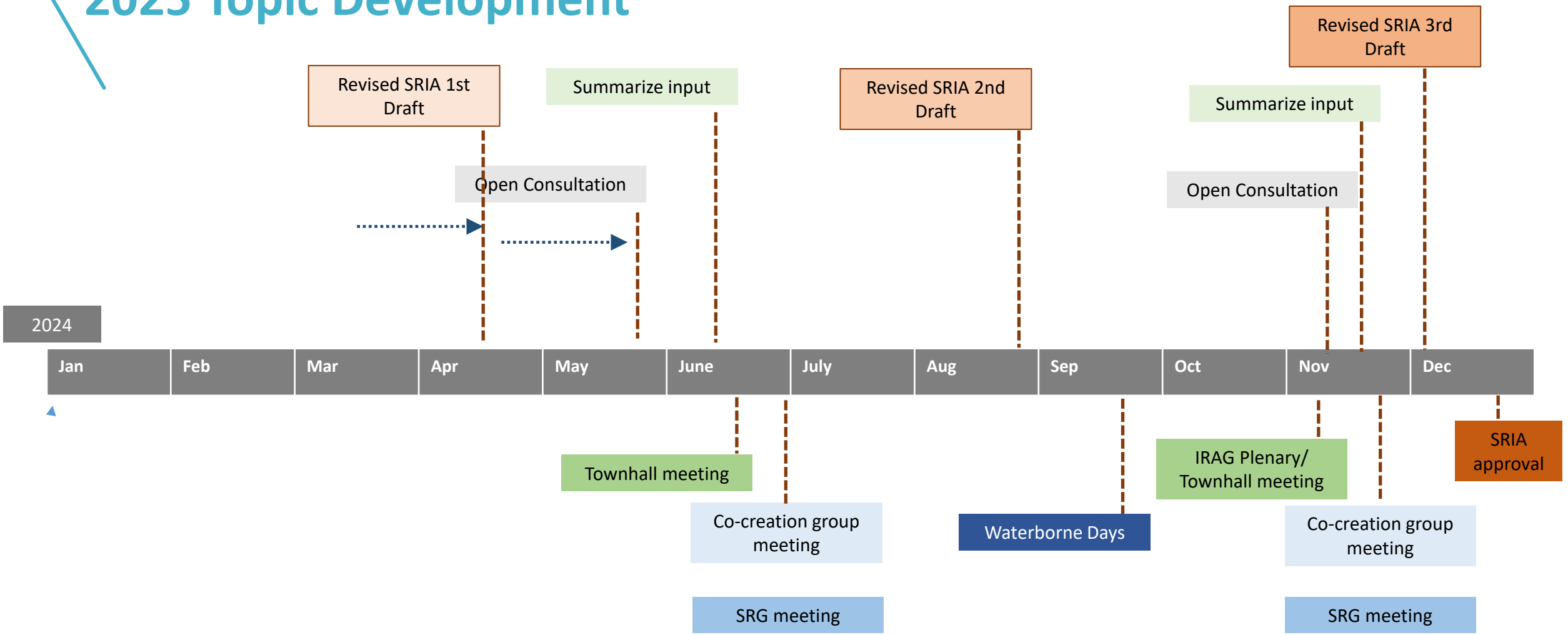
How

- Open Consultation
- Focused Alignment Meeting
- Townhall meeting
- Co-creation Group meeting

When

- March 2023
- July 2023
- December 2023

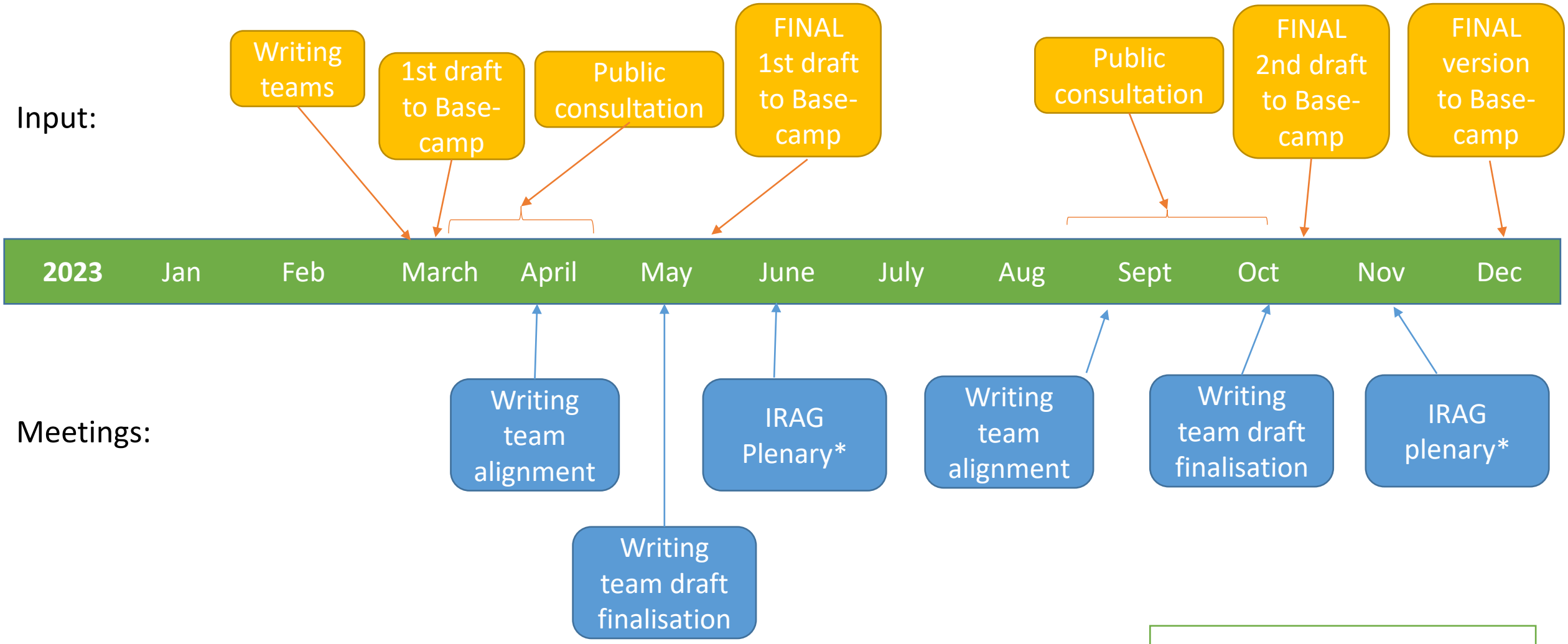
2025 Topic Development



Co-creation process (series of meetings with)

- DG RTD
- Delegates Group
- States Representatives Group
- Co-creation Group

Timetable for non-cPP SRIA updates

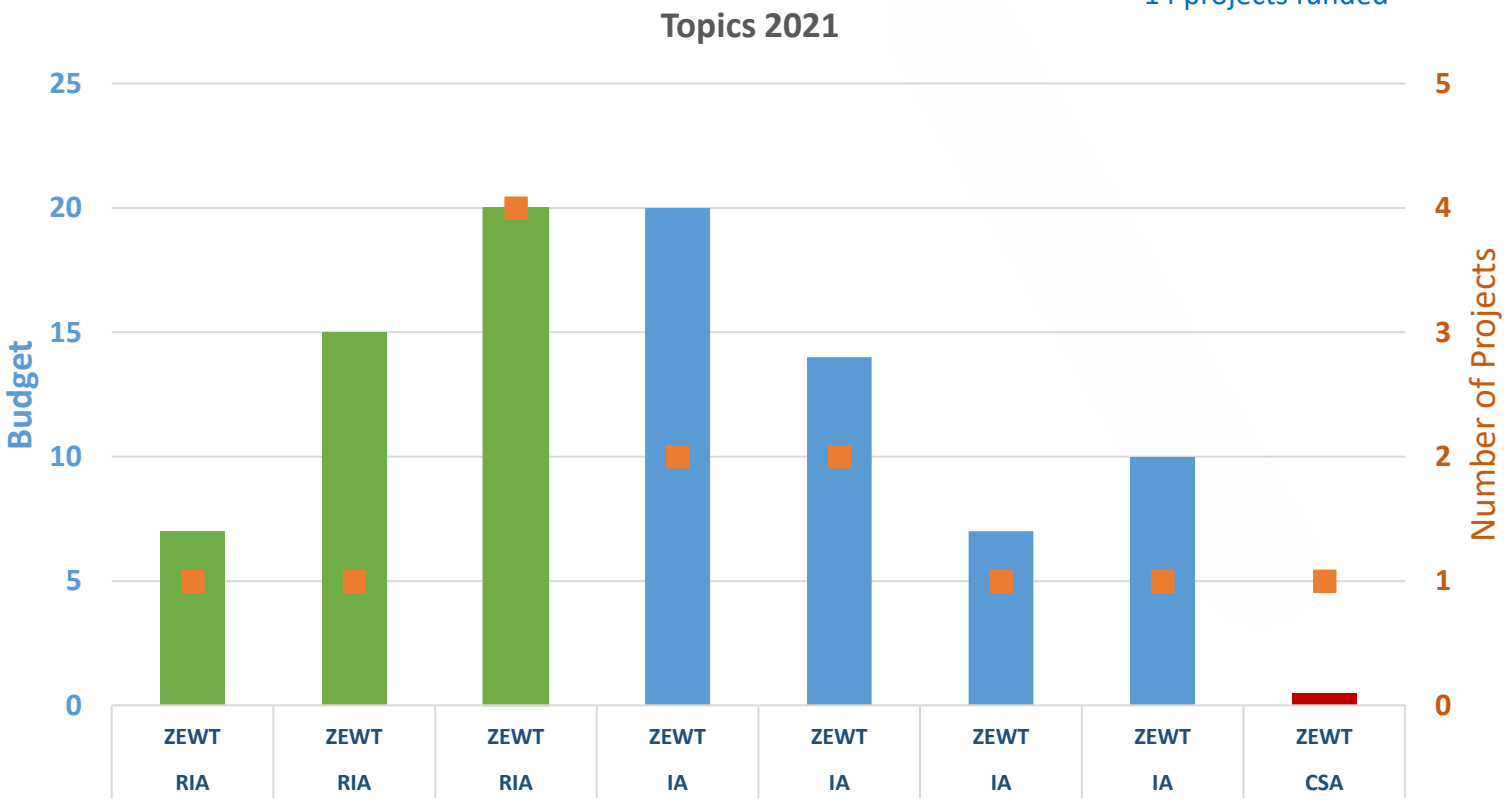


* Including subsequent Alignement Group and Membership Group meetings

2021-2022 topics (and projects)

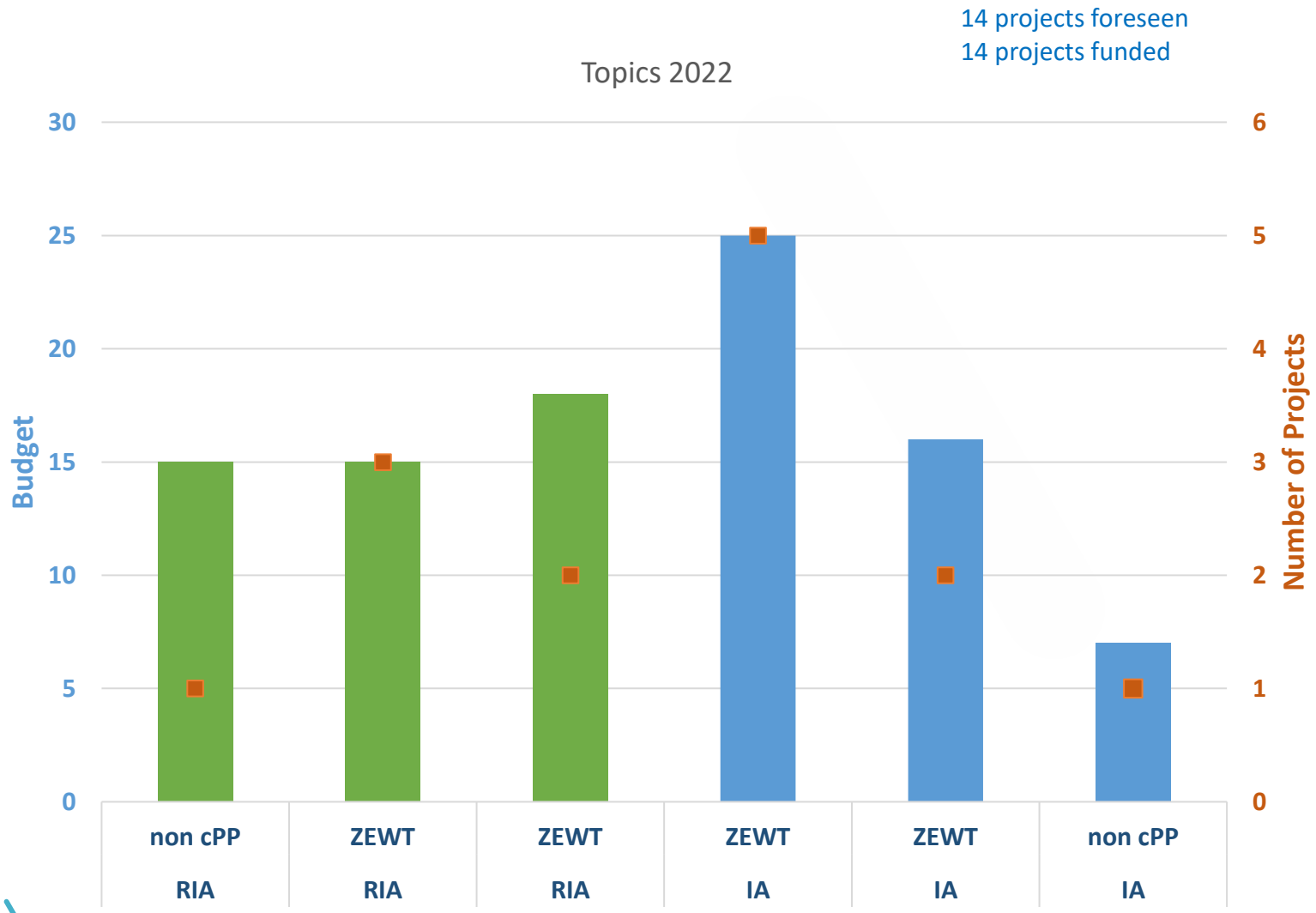
Re-cap on 2021-2022 topics

13 projects foreseen
14 projects funded



- Digital Twin models to enable green ship operations (**DT4GS**)
- Enabling the full integration of very high power fuel cells in ship design using co-generation and combined cycle solutions for increased efficiency with multiple fuels (**HELENUS, SHIP-AH2OY**)
- Innovative on-board energy saving solutions (**ZHENIT, OPTIWISE, HEMOS, RESHIP, CoPropel**)
- Enabling the safe and efficient on-board storage and integration within ships of large quantities of ammonia and hydrogen fuels (**NH3CRAFT, sHYpS**)
- Hyper powered vessel battery charging system (**HYPOBATT**)
- Assessing and preventing methane slip from LNG engines in all conditions within both existing and new vessels (**GREEN RAY**)
- Proving the feasibility of a large clean ammonia marine engine (**Ammonia2-4**)
- CSA identifying waterborne sustainable fuel deployment scenarios (**NEEDS**)

Re-cap on 2021-2022 topics

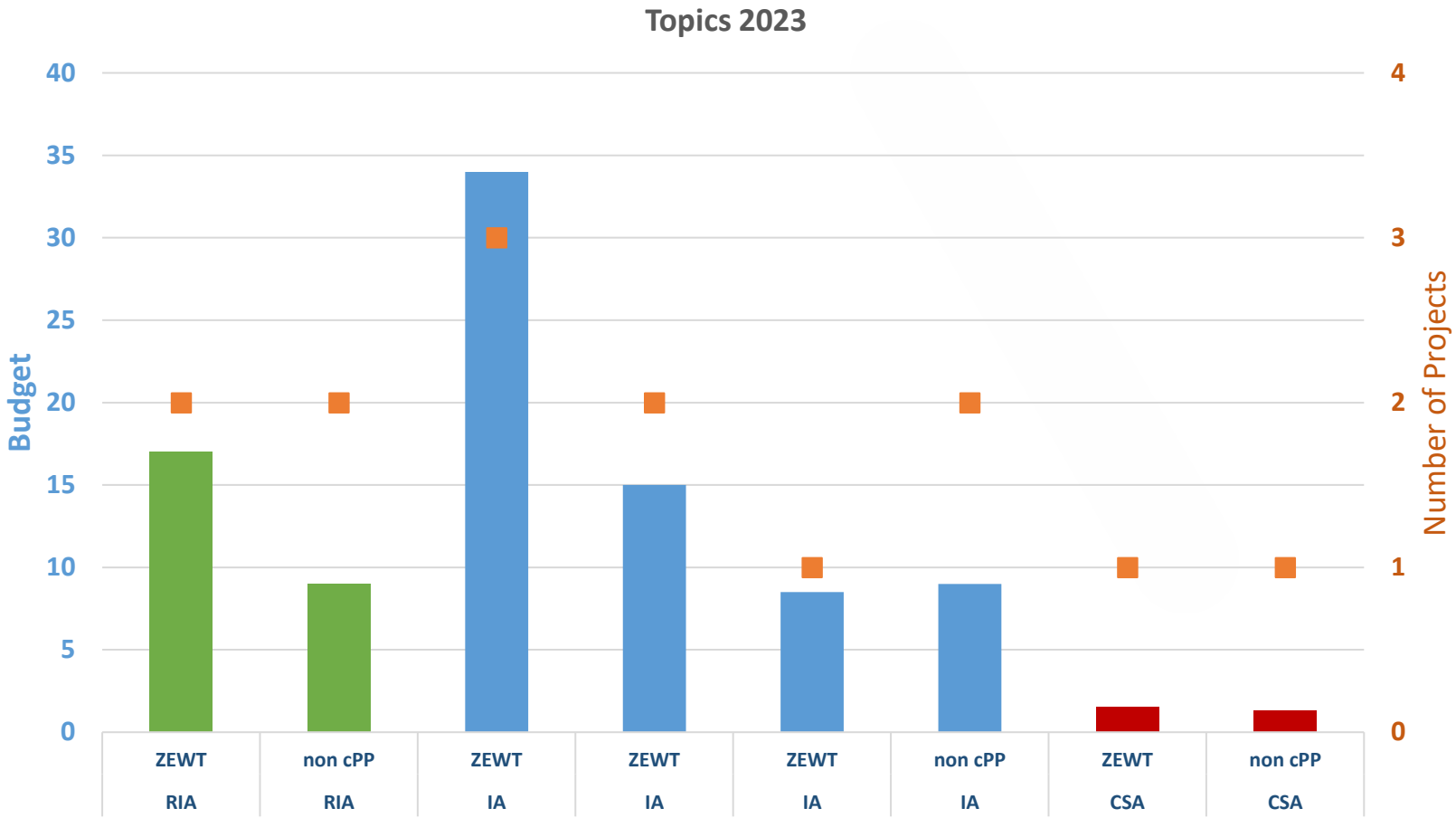


- Seamless safe logistics through an autonomous waterborne freight feeder loop service (**SEAMLESS**)
- Innovative energy storage systems on-board vessels (**POSEIDON, AENEAS, V-ACCESS**)
- Exploiting renewable energy for shipping, in particular focusing on the potential of wind energy (**Orcelle, WHISPER**)
- Transformation of the existing fleet towards greener operations through retrofitting (**HyEkoTank, SYNERGETICS, Apollo, RETROFIT55, GreenMarine**)
- Exploiting electrical energy storage systems and better optimising large battery electric power within fully battery electric and hybrid ships (**NEMOSHIP, FLEXSHIP**)
- Computational tools for shipbuilding (**SEUS**)

2023-2024 topics

Re-cap on 2023-2024 topics

14 projects foreseen



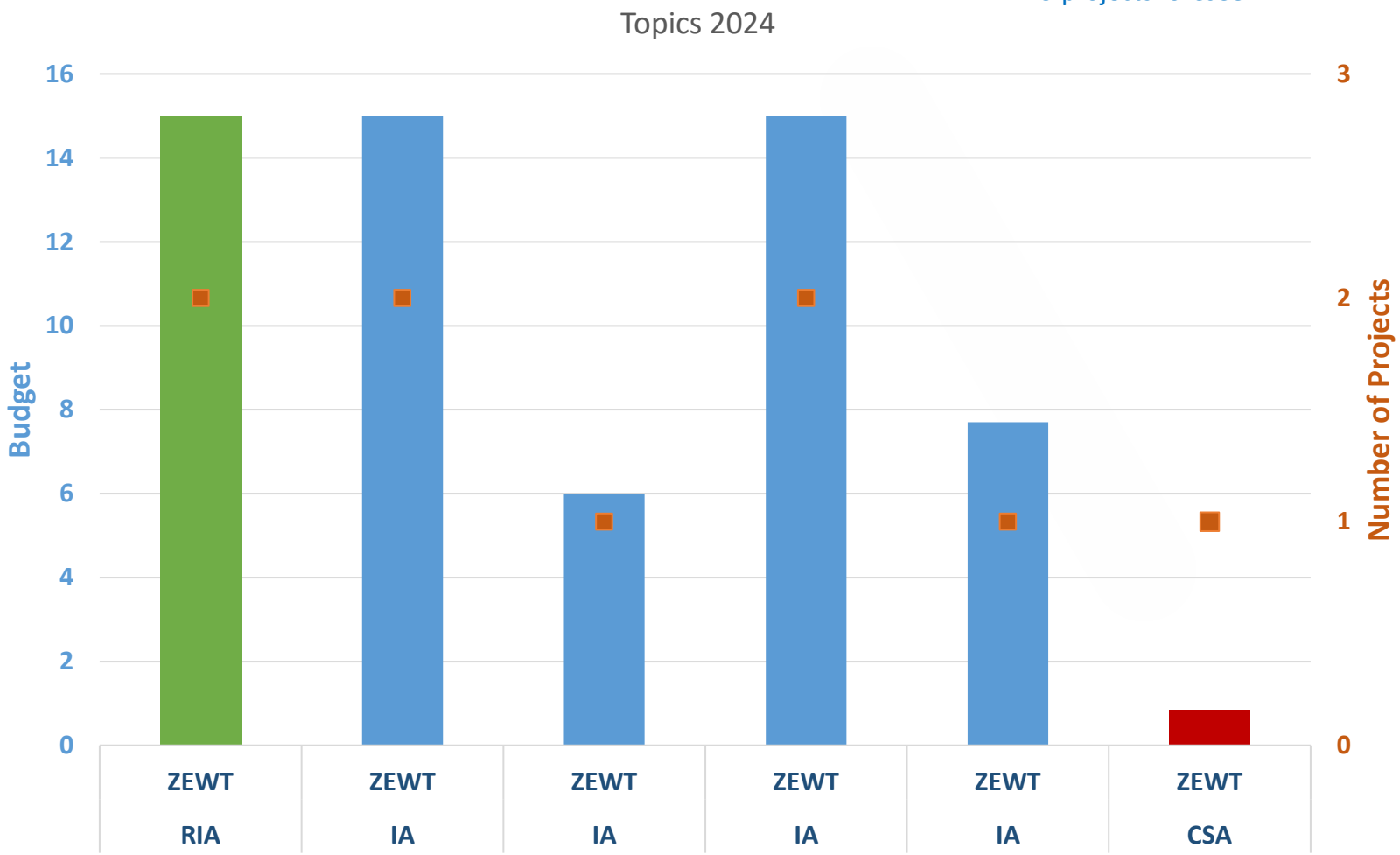
- Developing the next generation of power conversion technologies for sustainable alternative carbon neutral fuels in waterborne applications
- Developing small, flexible, zero-emission and automated vessels to support shifting cargo from road to sustainable Waterborne Transport

- Demonstrations to accelerate the switch to safe use of new sustainable climate neutral fuels in waterborne transport
- Integrated real-time digital solutions to optimise navigation and port calls to reduce emissions from shipping
- Developing a flexible offshore supply of zero emission auxiliary power for ships moored or anchored at sea deployable before 2030
- Reducing the environmental impact from shipyards and developing a whole life strategy to measure and minimise the non-operational environmental impacts from shipping

- Coordinating and supporting the combined activities of member and associated states towards the objectives of the ZEWT partnership so as to increase synergies and impact
- Towards the implementation of the inland navigation action programme with a focus on Green and Connected Inland Waterway Transport

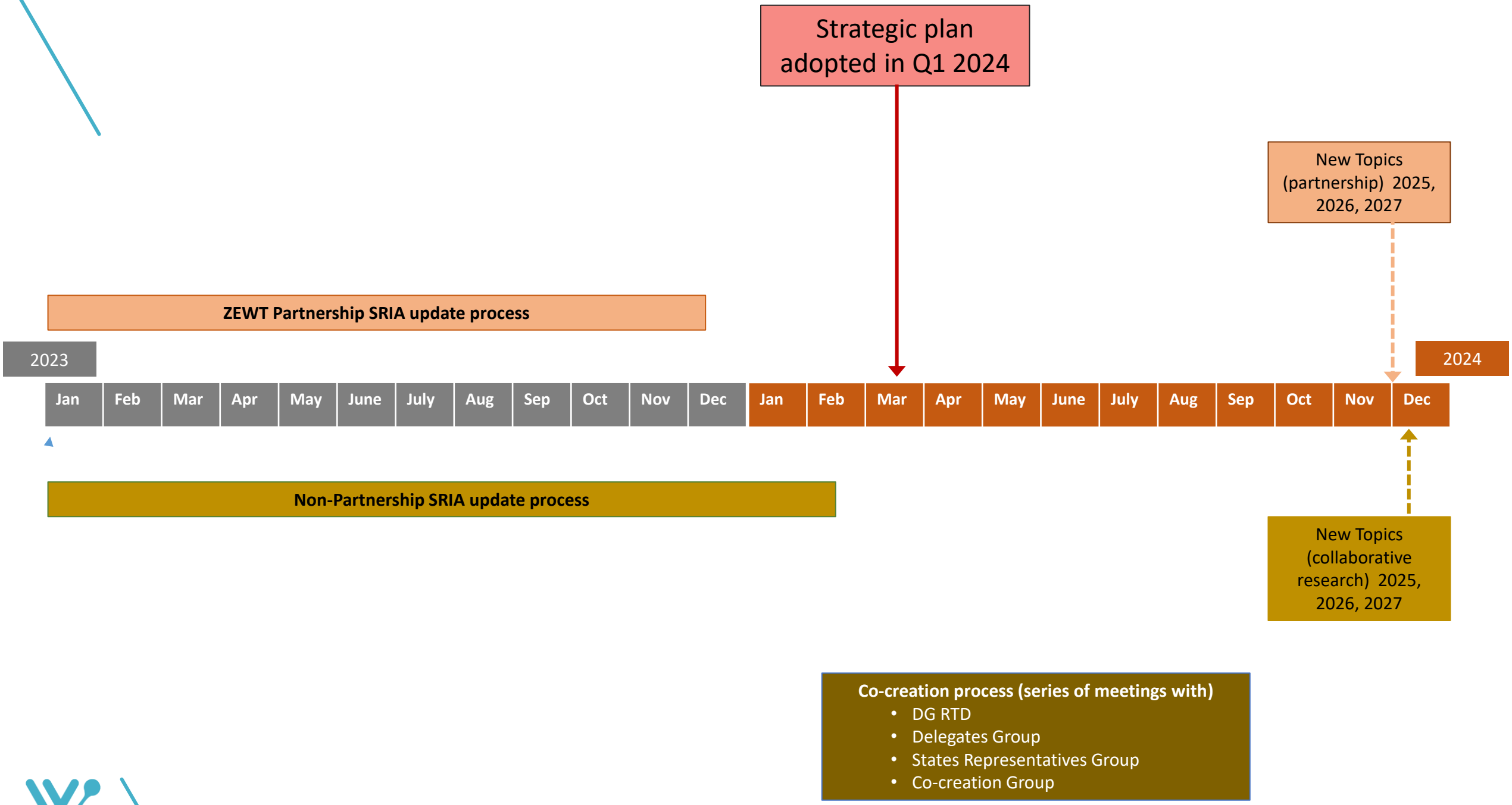
Re-cap on 2023-2024 topics

9 projects foreseen

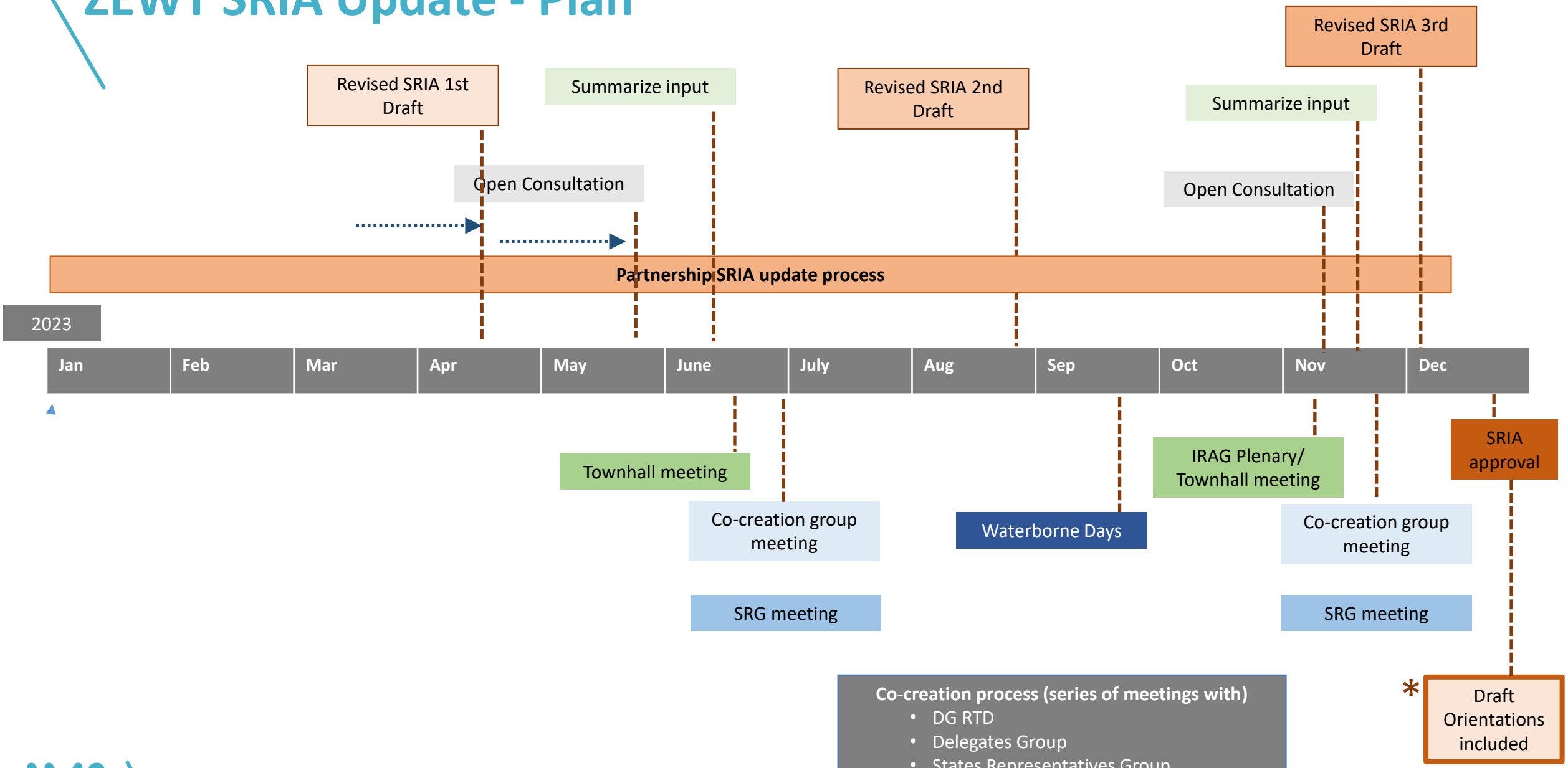


- Achieving high voltage, low weight, efficient electric powertrains for sustainable waterborne transport
- Combining state-of-the-art emission reduction and efficiency improvement technologies in ship design and retrofitting for contributing to the "Fit for 55" package objective by 2030
- Demonstration of technologies to minimise underwater noise generated by waterborne transport
- Demonstrating efficient fully DC electric grids within waterborne transport for large ship applications
- Advanced digitalisation and modelling utilizing operational and other data to support ZEWT
- Structuring the Waterborne transport sector, including through changed business and industrial models in order to achieve commercial ZEWT

Process for 2025 topic development


Strategic plan adopted in Q1 2024
New Topics (partnership) 2025, 2026, 2027
ZEWT Partnership SRIA update process
2023
2024
Jan Feb Mar Apr May June July Aug Sep Oct Nov Dec Jan Feb Mar Apr May June July Aug Sep Oct Nov Dec
Non-Partnership SRIA update process
New Topics (collaborative research) 2025, 2026, 2027
Co-creation process (series of meetings with)
• DG RTD
• Delegates Group
• States Representatives Group
• Co-creation Group

ZEWT SRIA Update - Plan



2025 Topic Development

Orientations — December 2023

1st Draft — circulated in January 2024

2nd Draft — circulated in April 2024

Final Draft WP — circulated in May 2024

Final adoption in fall 2024

WATERBORNE

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