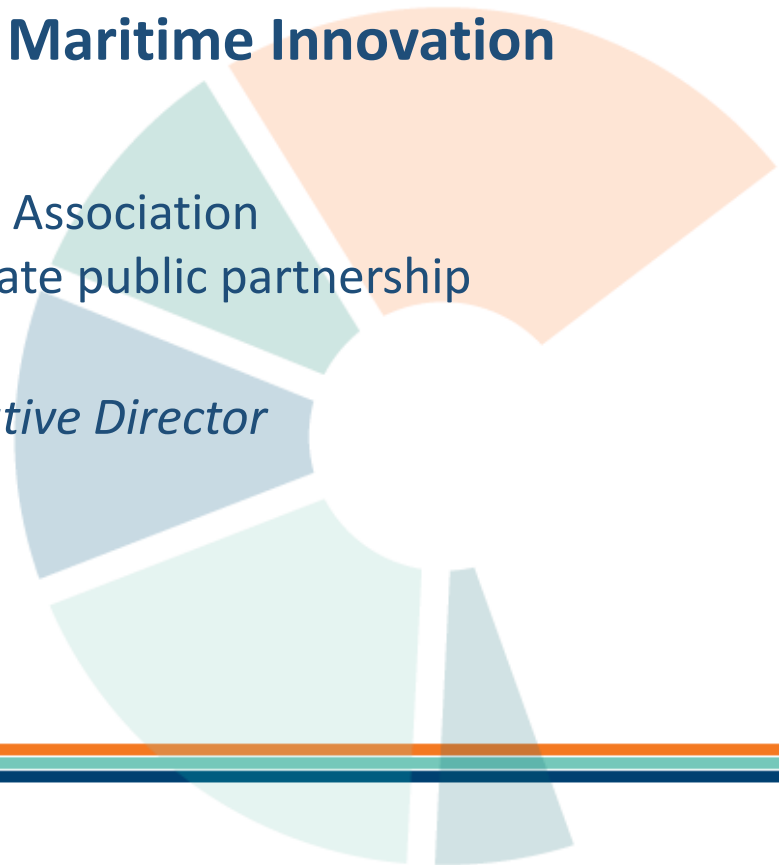


VESSELS for the FUTURE

Sustainable Growth through Maritime Innovation

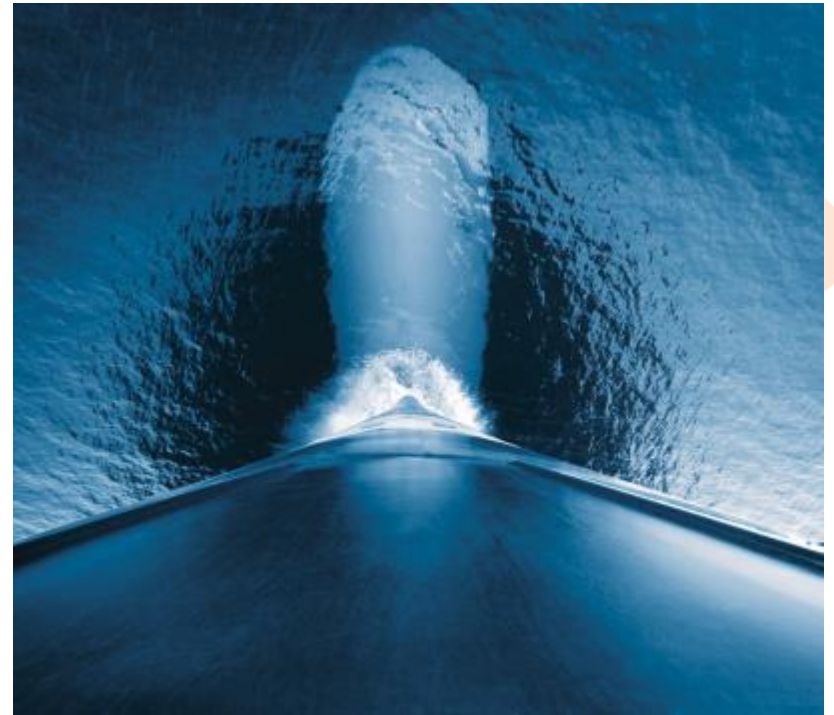
A European Research Association
and an initiative towards a private public partnership

Chris Campbell, Executive Director



- who are we

- A new European research association to coordinate and promote **maritime technology** development & innovation
- Addressing societal challenges for **safer, cleaner and efficient transport** and the industrial challenge to **competitiveness**
- Convinced that **sustainable growth** can be achieved with maritime innovations
- Aim at **private-public partnership** to ensure long-term commitment



- a strong and growing partnership

Vessels for the Future represents **all stakeholders** of the maritime value chain: ship owners, ship yards, system suppliers, classification societies, research institutes and academia.

Today, **64 members from 15 EU Member States** have joined – with half of the members representing industry.



Board members

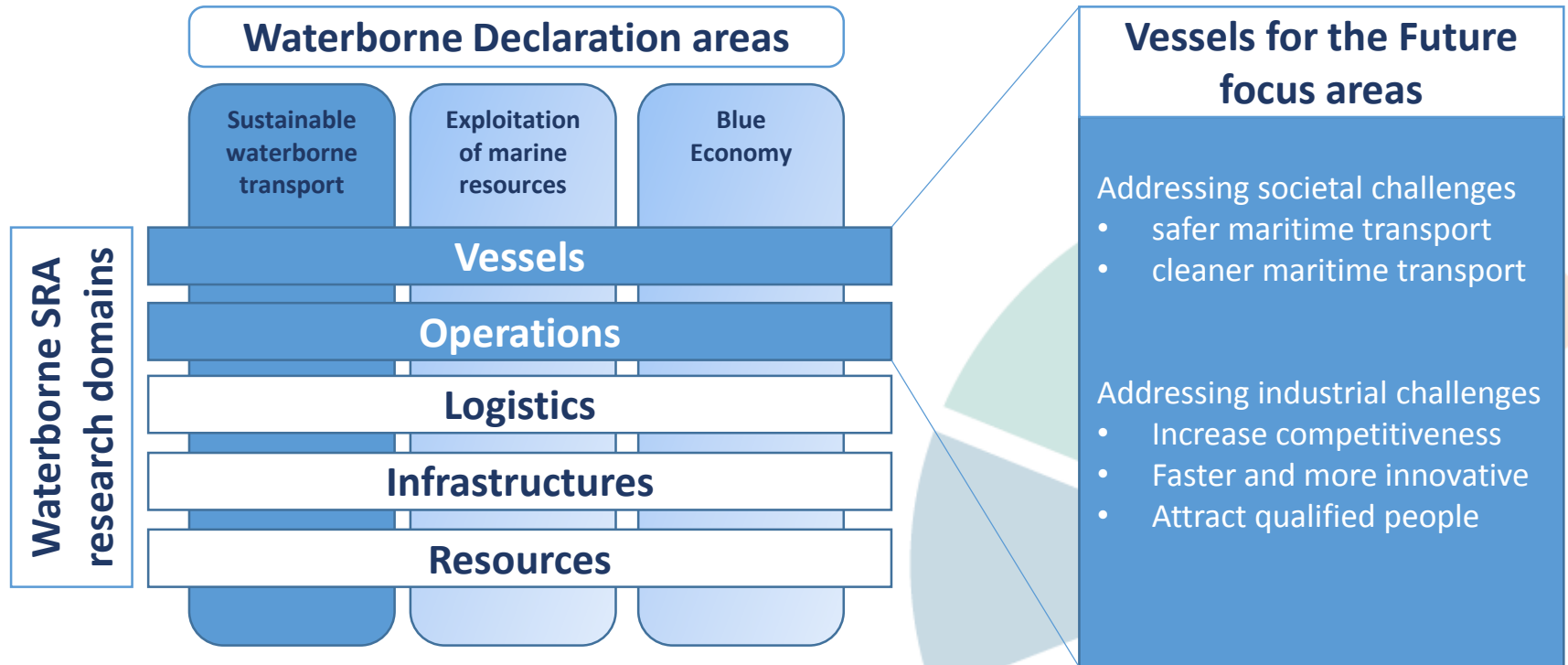
- how we see 2050

By 2050, we will be using our **maritime space and inland waterways** for transport, food and energy production, mineral exploitation, but also for expanding urban development, leisure, tourism and manufacturing.

The increased use of our **ocean space** requires that it is well organized, secure and supported by **safe and clean vessels**. Challenges relate to

- vessels operating with **drastically reduced emissions** and meeting strict **safety requirements**
- industry **rapidly implementing** new technologies, building advanced vessels and operating more complex vessels
- industry **training** highly specialized manufacturing and operating personnel
- industry providing **innovative and digital services** in a more competitive waterborne environment
- industry **adapting** to the ever faster changing business environment

- a part of 'Waterborne' platform



Safer maritime transport

- Working on new built ships becoming as safe as equivalent onshore operations

Cleaner and efficient maritime transport

- Meeting required IMO and proposed EU emission reductions
- Supporting modal shift and blue growth
- Delivering more fuel-efficient vessels

A competitive industry to create new jobs

- Sustaining leadership in ship and ship system development and production
- Using the innovation potential of SMEs
- Embracing digital business opportunities

- high level 2050 goals

Safer maritime transport

- reduce risk of people on board new ships by 90%

Cleaner maritime transport

- reduce ship CO₂-emissions to air by 80%
- reduce ship NO_x and SO_x emissions by 100%
- reduce underwater noise levels by 10dB

Stronger industry

- Improve technology supplier productivity by 80%
- reduce ship operating costs by 80%

Through the planned research activities the following advances are envisaged:

- Reduced energy consumption and emissions
- Reduced hull water resistance
- Improved vessel sea keeping and passage management
- Increased automation and remote monitoring of vessel performance
- Improved structural integrity
- Advanced adoption of digital technology across design, production and operation
- Weight reduction through use of novel materials and new manufacturing processes
- A paradigm shift in propulsion through the introduction of multi-fuel options
- A new safety era designed by considering all safety aspects including human aspects
- New IT tools to support research and test new systems in vessel demonstrators
- Proto-typing new hybrid vessels

- expected impacts of technological advances

Technology development results and their contribution towards meeting the objectives will be presented using demonstrators.

Demonstrator (selected)	Impact
Model-based assessment of complex systems	Reduced accident probability
Automation of safety critical operations	Reduced potential loss of life
New energy storage system	Reduced CO ₂ emissions
Next generation SCR for big engines	Reduced NOx emissions
Simulation of automated assembly	Reduced production costs
Design concepts for advanced vessels	Reduced ship life-cycle costs
Connected ship – on-board data network	Reduced fuel and operating costs

- what is a cPPP?

Horizon 2020 Regulation Article 19 - Public-Private Partnerships states:
'Horizon 2020 may be implemented through public-private partnerships where **all** the partners concerned **commit** to support the development and implementation of research and innovation activities of **strategic importance** to the Union's **competitiveness** and industrial leadership or to address specific **societal challenges**'.

There are two types of PPP:

- **'contractual' PPPs**: annual ring-fenced budget for participation in normal calls, based on an industry developed Strategic Research Agenda eg. Factories of the Future & Green Vehicles
- **Joint Technology Initiatives**: like the 'contractual PPPs' but ring-fenced budget over 7 years and a strong commitment of industry inserted in legislation eg. Clean Sky

- how will Vessels for the Future cPPP work

The VESSELS for the FUTURE Research Association aims to establish a cPPP with the European Union under Article 19

The following elements characterise the foreseen cPPP:

- the industry **proposes** a multi-annual RDI roadmap (the SRA) broken down to topics and **advises** the EU Commission on the future Horizon 2020 Work Programme contents
- the EU Commission **manages** the Horizon 2020 Work Programmes and **publishes** calls
- the **Horizon 2020 framework programme rules** for participation are applied
- an **indicative budget** is reserved for the implementation of the RDI roadmap
- the Industry commitment is secured through a Partnership Agreement

- why do we need a cPPP

Bringing together a **critical mass** of research resources and relevant actors to address the specific **societal challenges**

Building **long term commitment** from the maritime industry and EU to meet shared objectives and to deliver effectively the research results

Involving industrial, research and academic organisations, from the entire maritime value chain, in defining homogeneous R&D priorities in a widely heterogeneous industry sector

Stimulating **private investment** by focused use of public funds to strengthen the maritime industrial base

Accelerating the uptake of technologies towards solutions for the market

Supporting industrial **leadership** in the maritime sector to create new high-value jobs

- what is Vessels for the Future doing

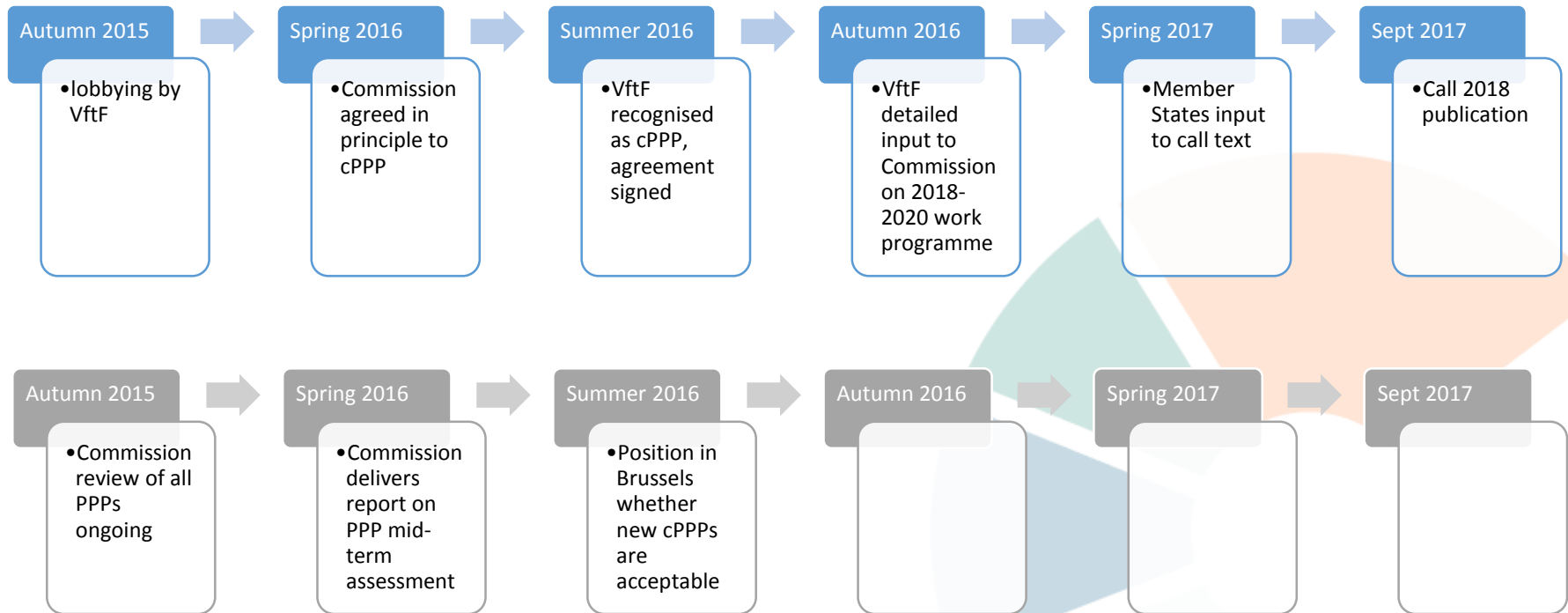
Vessels for the Future is already inputting technical content to the EU Commission (DG GROW, DG MOVE and DG RDI) with knowledge provided by our members. A future role as trusted technical advisor is envisaged.

The Association, is building its case for this initiative towards a cPPP.

Its membership is growing and members contribute and gain advantage by:

- **Influencing** public R&D call contents
- **Exploiting** knowledge on public R&D calls
- **Understanding** maritime R&D priorities

- timeline to establish the cPPP



Thank you for your kind attention.

chris.campbell@vftf.eu

+44 7443504153

