European Commission

European Partnerships

#HorizonEU

Cluster 5 Candidate Partnerships

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Research and Innovation

New approach to European Partnerships in HE

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

Key features

- **Simple architecture and toolbox**
- **Systematic and transparent approach to selection, implementation, monitoring…**
- **Strategic orientation**

Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

Co-funded

Based on a joint programme agreed and implemented by partners; commitment of partners for financial and in-kind contributions

Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Common for all European Partnerships

- **Strategic orientation:** to make a considerable contribution to achieving EU policy priorities (e.g. Green deal, Europe fit for digital age) and related strategies (e.g. Industrial Strategy)
- **Common set of criteria** along their life-cycle, defined in the Horizon Europe regulation Article 8 & Annex III.
- **Key conditions for launching a partnership:**
  - ➢ Existence of Strategic Research and Innovation Agenda/Roadmap to demonstrate partner's common strategic vision
  - ➢ Ex-ante long-term commitment from partners to mobilise and contribute resources and investments
- **Implementation via annual Work Programmes**: translation of Roadmap/SRIA into annual priorities and activities
- **Systemic approach**: portfolio of activities that goes beyond collaborative R&I projects

➔ **The main differences are in the legal form and implementation, with the Co-programmed being the most simple, and the Institutionalised the most complex.**

European Commission

Co-programmed European Partnerships

"Division of labour"

- Most relevant current actions: Contractual Public-Private-Partnerships (cPPP)
- Legal form: Contractual Arrangement / MoU (signed between representatives of the partners and the Commission)

Implementation:

- Union budget is implemented in the Horizon Europe Work Programme.
- Partners implement their commitments and contributions under their responsibility.

Activities and contributions have to be agreed in the Annual Work Plan (to ensure they are in the scope of the partnership)

- European Commission: call topics for the necessary range of actions (R&I, Innovation actions, CSA, prizes ….)
- Partners: their own activities and investments;

- **Association** provides back-office with important functionalities

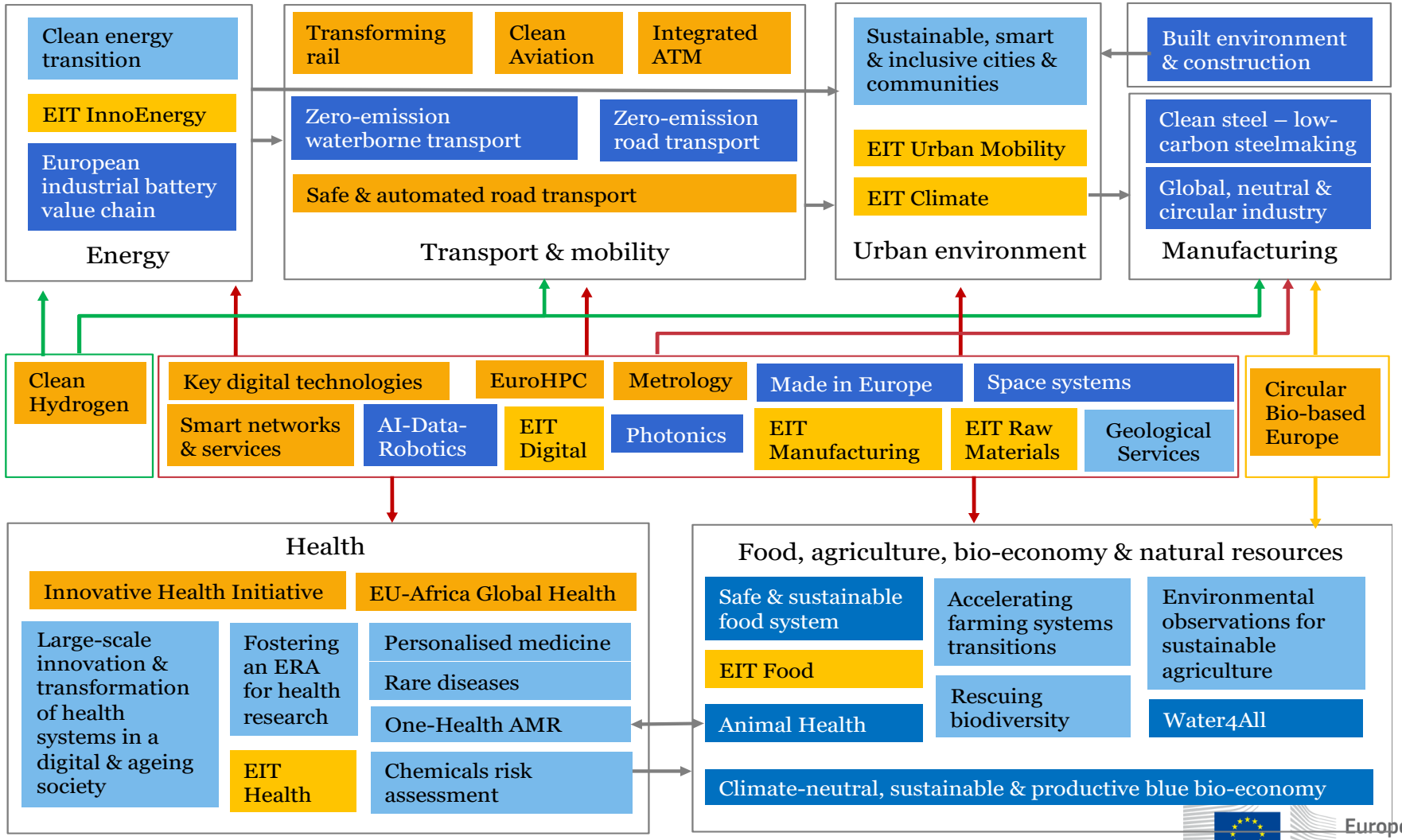
European Commission

Portfolio of candidate European Partnerships

Industry-orientated ‘vertical’ partnerships

‘Horizontal’ partnerships

Vertical partnerships in the societal application areas



Candidate Institutionalised Partnerships | EIT KIC | Co-Programmed | Co-Funded | CPP or CFP

Candidate partnerships for Cluster 5

Institutional Partnerships

- Transforming Europe's rail system
- Integrated Air Traffic Management
- Clean Aviation
- Clean Hydrogen

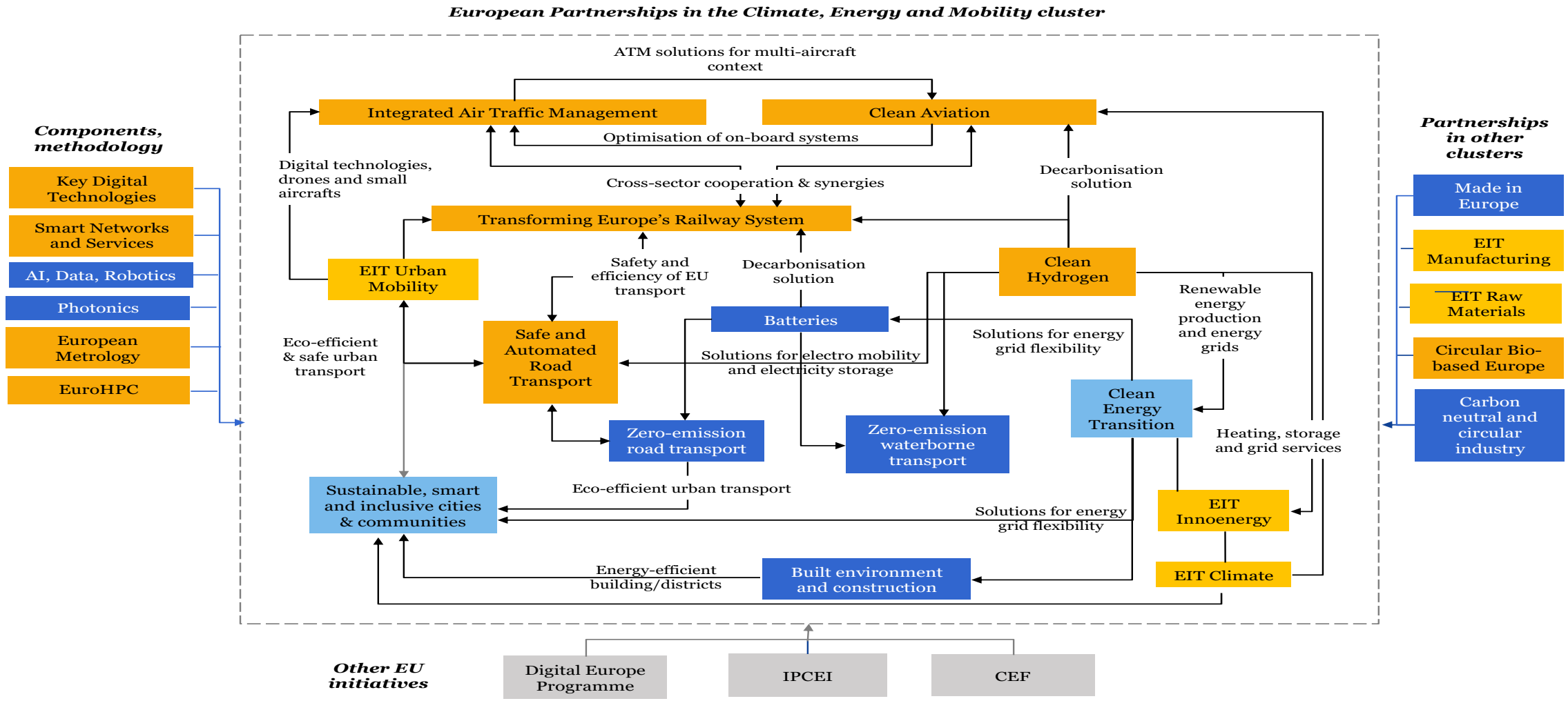
Co-funded Partnerships

- Driving urban transitions to a sustainable future (DUT)
- Clean Energy Transition

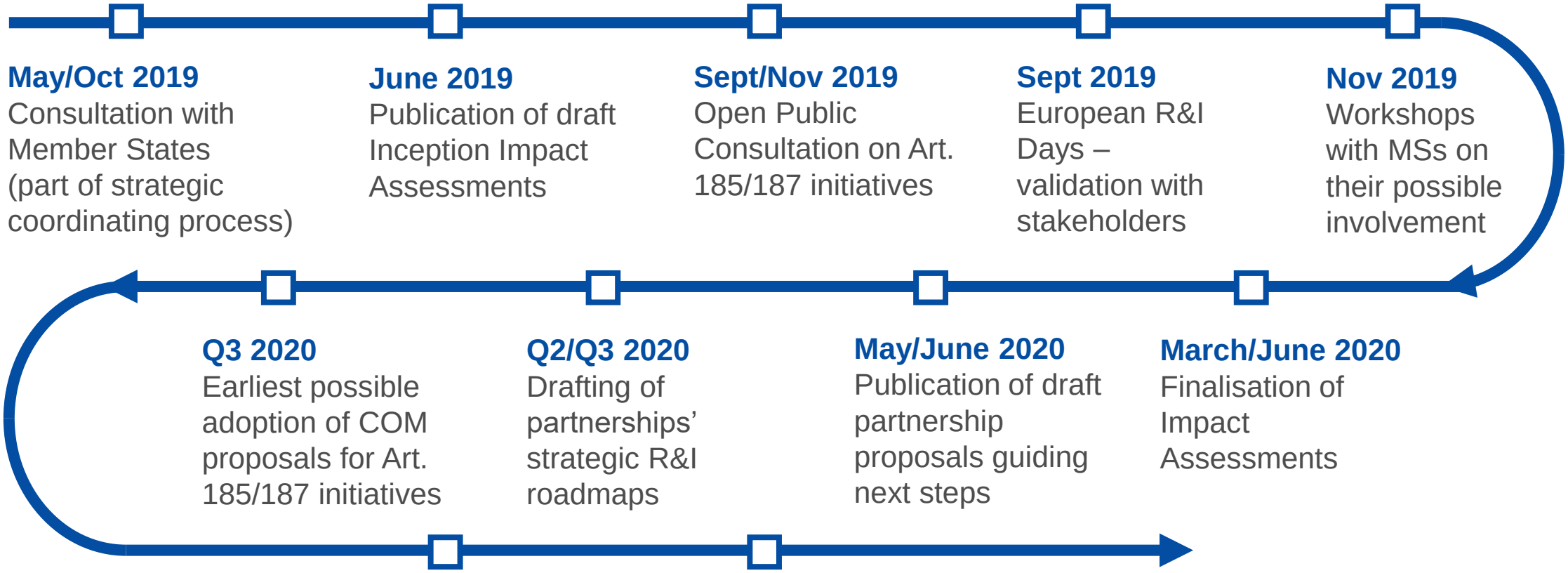
Co-programmed Partnerships

- Built4People | People-centric sustainable built environment
- Towards zero-emission road transport (2ZERO)
- Batteries: Towards a competitive European industrial battery value chain for stationary applications and e-mobility
- Zero-emission waterborne transport
- Connected, Cooperative and Automated Mobility (CCAM)

Links among Cluster 5 candidate partnerships



Tentative timeline



May/Oct 2019
Consultation with Member States (part of strategic coordinating process)

June 2019
Publication of draft Inception Impact Assessments

Sept/Nov 2019
Open Public Consultation on Art. 185/187 initiatives

Sept 2019
European R&I Days – validation with stakeholders

Nov 2019
Workshops with MSs on their possible involvement

March/June 2020
Finalisation of Impact Assessments

May/June 2020
Publication of draft partnership proposals guiding next steps

Q2/Q3 2020
Drafting of partnerships' strategic R&I roadmaps

Q3 2020
Earliest possible adoption of COM proposals for Art. 185/187 initiatives

Q3 2020 – Q2 2021
Negotiation with Council (and EP), adoption

2021
Launch of first European Partnerships

European Commission

Next steps of preparation of European Partnerships

NB! Timing depends on the progress on MFF negotiations.

- **28 May :** website for European Partnership https://europa.eu/!Hy99BF
  - Contact information (Commission + representative of partners)
  - Publication of partnership draft proposals (plan to get all proposals online by mid-June)

→ Transparency of information; supports synergies & alignment!

- **Q2/Q3 drafting on partnerships' strategic R&I agendas/Roadmaps**. They all need to be finalized by the time we commit to a partnership.

→ Check draft proposals to get info on the process (consultations etc.)

- **Q2/3 (tbc):** Request for commitments from partners
- **24-26 September**: Digital R&I Days (communication and discussion with stakeholders).
- **At the time of adoption of the WP 2021/2** (Q1/2021): signature of contractual arrangements for co-programmed partnerships, launch of first calls.

European Commission

Transforming Europe's rail system

European Commission

Transforming Europe's rail system

- Institutional Partnership
- Successor to Shift2Rail Joint Undertaking

OBJECTIVES

- Rail-related R&I activity under Horizon Europe should enhance rail's contribution to societal development in Europe
- To advance the completion of the Single European Railway Area by delivering on an integrated rail system, based on a vision shared by the sector
- To modernize rail freight so that it increases capability and capacity
- To ensure that rail-related R&I activity is better aligned with rail market needs through a user-centric approach.

EXPECTED IMPACTS

- Further reducing the emissions generated by the rail transport industry itself but more importantly by improving the attractiveness of rail services
- Increase in rail's modal share of passenger and freight markets
- Improvement in the competitiveness of the Rail Supply Industry
- Accelerated and coordinated deployment of innovative solutions

European Commission

Transforming Europe's rail system

LINKS TO OTHER INITIATIVES

- **ECSEL** and 5G for digitalisation and automation;
- **Clean Hydrogen** and **Batteries** as alternatives for diesel trains and for autonomous new freight wagon;
- Other transport partnerships concerning interfaces with other modes and multimodality;
- Connecting Europe Facility, Digital Europe Programme, ERDF, Cohesion Fund.

CURRENT STATE-OF-PLAY

Impact Assessment to be finalized in June

Ongoing discussions with the sector on their proposal for the partnership

By September 2020: Final draft SRIA/first draft of the Master Plan

Commission Proposal: October 2020

Launch of partnership: Mid 2021

European Commission

Integrated Air Traffic Management (ATM)

European Commission

Integrated Air Traffic Management (ATM)

- Institutional Partnership
- Successor to Single European Sky ATM Research (SESAR) Joint Undertaking

OBJECTIVES

- Strengthen and integrate the EU's R&I capacity
- Bring ATM into the digital age, making systems more resilient and scalable to fluctuations in traffic
- Strengthen through innovation the competitiveness of the EU air transport, drones and ATM services to support a robust recovery in a post COVID-19 world
- Develop and accelerate market uptake of innovative solutions to establish the European airspace as the most efficient and environmentally friendly sky to fly in the world.

EXPECTED IMPACTS

- New scientific knowledge and reinforcement of EU scientific capabilities
- Enhanced capacity among the next generation aviation professionals
- Ability to handle additional flights, enabling growth in the aviation sector
- Enabling the development of the drones sector
- Boost EU industry globally through international agreements and the setting of global standards
- Improving passenger experience by reducing travel time, delays and costs
- Reducing aviation greenhouse gas emissions and noise

Integrated Air Traffic Management (ATM)

LINKS TO OTHER PARTNERSHIPS

- **Air transport** – improvements in the environmental efficiency of aircraft should be supported by a more flexible and agile ATM infrastructure
- **Multi-modality** – to ensure a seamless flows of passengers, ATM systems need to be coordinated with other transport modes on issues such as through-ticketing, connectivity and luggage reconciliation, etc.
- **Digital technologies** – ATM is increasingly more reliant on digital technologies, in particular concerning data manipulation and distribution, cybersecurity, big data or artificial intelligence

CURRENT STATE-OF-PLAY

July – Dec 2019: IA study

Dec 19 - May 20: Partnership Proposal preparation

Nov 19 – May 20: Commission Impact Assessment Report

May-September 20: SRIA preparation

Commission Proposal: October 20?

Launch of partnership: Mid 2021

Clean Aviation

European Commission

Clean Aviation

- Institutional Partnership
- Successor to Clean Sky 2 Joint Undertaking

OBJECTIVES

Context:

- Aviation sector highly regulated
- Very long life cycles, high technological investments, strong international dimension – emissions reductions too slow.
- Without policy intervention, recent technological achievements will appear after 2035, i.e. only 13% emissions cut by 2050

EXPECTED IMPACTS

- Focus on disruptive R&I
- Ambition R&I contribution to EGD goals:
  - 2030 a 50-55% reduction
  - Climate neutrality by 2050
- Measures
  - By 2030 – Accelerating technologies' uptake
  - By 2050 – Aggressive technological renewal i.e. new aircraft design, e.g.:
    - Disruptive technologies for a Hybrid-Electric Regional Aircraft;
    - Disruptive technologies for an ultra-efficient short and medium-range aircraft;
    - Disruptive technologies to enable H2 powered aircraft.

Clean Aviation

LINKS TO OTHER PARTNERSHIPS

- Potential collaboration with many partnerships, but most importantly:
  - **SESAR**, better air traffic management could reduce emissions
  - **Clean Hydrogen** & **Batteries** partnerships – potential alternative energy sources
  - **Made in Europe** partnership - key enabling manufacturing technologies to take new disruptive products successfully into production and into service.

CURRENT STATE-OF-PLAY

- Potential private members are working on R&I areas that would feed into the Strategic Research and Innovation Agenda (SRIA)
- SRIA should focus on impactful and disruptive R&I, with a limited set of demonstrators
- EC is continuing to prepare the proposal, that will go to before the EC's Regulatory Scrutiny Board in early June. Open consultation of the SRIA expected to be launched around mid-may.

European Commission

Clean Hydrogen Europe

European Commission

Clean Hydrogen Europe

- Institutional Partnership
- Successor to Fuel Cells and Hydrogen (FCH) Joint Undertaking

OBJECTIVES

- Improve through R&I the cost-effectiveness, reliability and quality of clean hydrogen applications developed in the EU: The objective is to deliver **hydrogen based solutions at a price equivalent to the alternatives by 2030**.
- Reinforce the EU scientific and industrial ecosystem for innovative clean hydrogen applications;
- Demonstrate and scale-up clean hydrogen applications to stimulate large-scale generation capacity: The objective is to **produce clean hydrogen at a cost of ~€1.5-3/kg by 2030**, allowing penetration into mass markets;
- Accelerate through demonstration the co-deployment of EU storage, transport and distribution infrastructures for innovative clean hydrogen solutions: The objective is to **reduce the distribution costs to less than €1/kg of hydrogen at scale by 2030**.

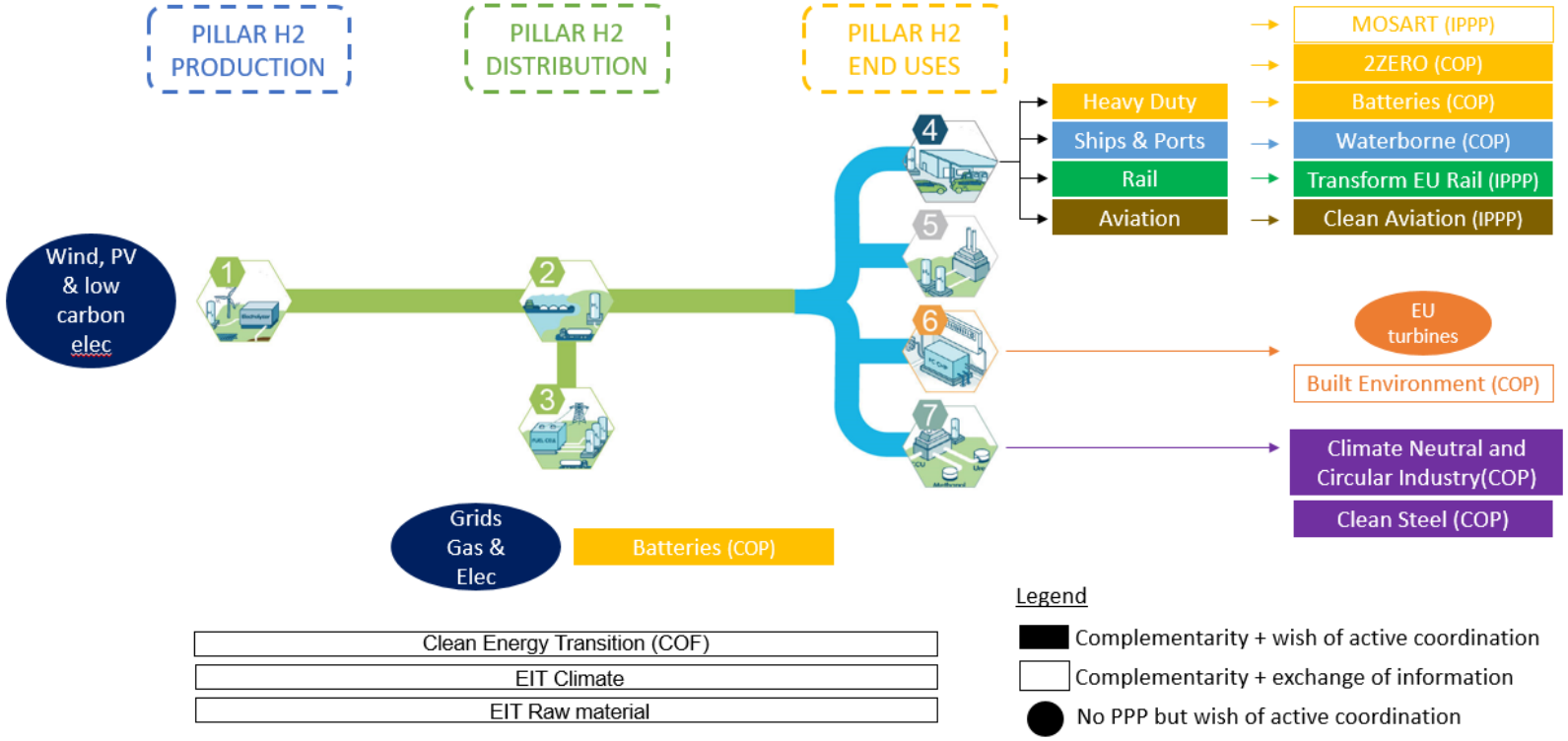
EXPECTED IMPACTS

- Ambition R&I contribution to European Green Deal goals:
  - Decarbonisation of hard to abate sectors
  - Climate neutrality by 2050
- Measures
  - By 2030 – Demonstration of production, distribution and storage of hydrogen at scale
  - By 2050 – Hydrogen contributing to 16-24% of total energy demand

European Commission

Clean Hydrogen Europe

LINKS TO OTHER PARTNERSHIPS



CURRENT STATE-OF-PLAY

- Positive opinion from Regulatory Scrutiny Board on Impact Assessment on Clean Hydrogen Partnership – 27 March 2020 (green light to proceed)
- Process of finalisation of SRIA, Single Basic Act by June 2020.

European Commission

Driving urban transitions to a sustainable future (DUT)

European Commission

Driving urban transitions to a sustainable future (DUT)

➢Co-funded Partnership, building on JPI Urban Europe and various COFUNDs

OBJECTIVES

- Underpin people-centric urban transitions towards sustainability, in sync with health, livability, cohesion, well-being and economic prosperity for all.
- Focus on three critical sectors, their integration and interrelationships: energy transitions through Positive Energy Districts, mobility transitions through accessibility and connectivity, and urban greening through Nature-Based Solutions and circular economies.

EXPECTED IMPACTS

- Cities, business and citizens better equipped with knowledge, tools, capacities and skills to design and roll out their **human based transition pathways** to sustainability and climate-neutrality;
- Strengthened membership from **Widening countries;**
- **Tested new approaches** for citizen engagement, co-creation, **social innovation;**
- Increased participation by **small and medium size** cities;
- Complement/underpin the mission on **‘Climate-neutral and smart cities’**.

European Commission

Driving urban transitions to a sustainable future (DUT)

LINKS TO OTHER PARTNERSHIPS

- Potential links with **several partnerships:** Clean Energy Transitions, Built4People, 2ZERO, CCAM (cluster 5) and Rescuing biodiversity, Safe and Sustainable Food System, Water4All (cluster 6)
- BUT also with the missions on **'Climate-Neutral and Smart Cities'** and **'Adaptation to Climate Change including Societal Transformation'**

CURRENT STATE-OF-PLAY

- Discussions still ongoing with DUT partners to finalise national commitments and efforts are made to mobilise additional agencies per country, mainly towards innovation agencies
- The JPI UE SRIA revised in 2019 and agreed by partners will be the backbone of DUT. To be operationalised through the multi-annual call agenda and implementation plan
- Consultation events with urban stakeholders are being organised for the framing of this agenda and plan

Clean Energy Transition

European Commission

Clean Energy Transition

➢Co-funded Partnership, building on various COFUNDs

OBJECTIVES

The Clean Energy Transition Partnership is expected to be a transformative Research and Innovation Programme across Europe boosting and accelerating the energy transition in all its dimensions:

- Addressing the key challenge of energy transition with clear output orientation and expected measured effects within the next 10 years;
- Supporting the visions and objectives of the ‘Energy Union’, ‘Clean Planet for All’ and the ‘Green Deal’ Communications;
- Contributing to the energy system transformation (system-orientation);
- Mobilising a critical number of national and regional programmes and budgets.

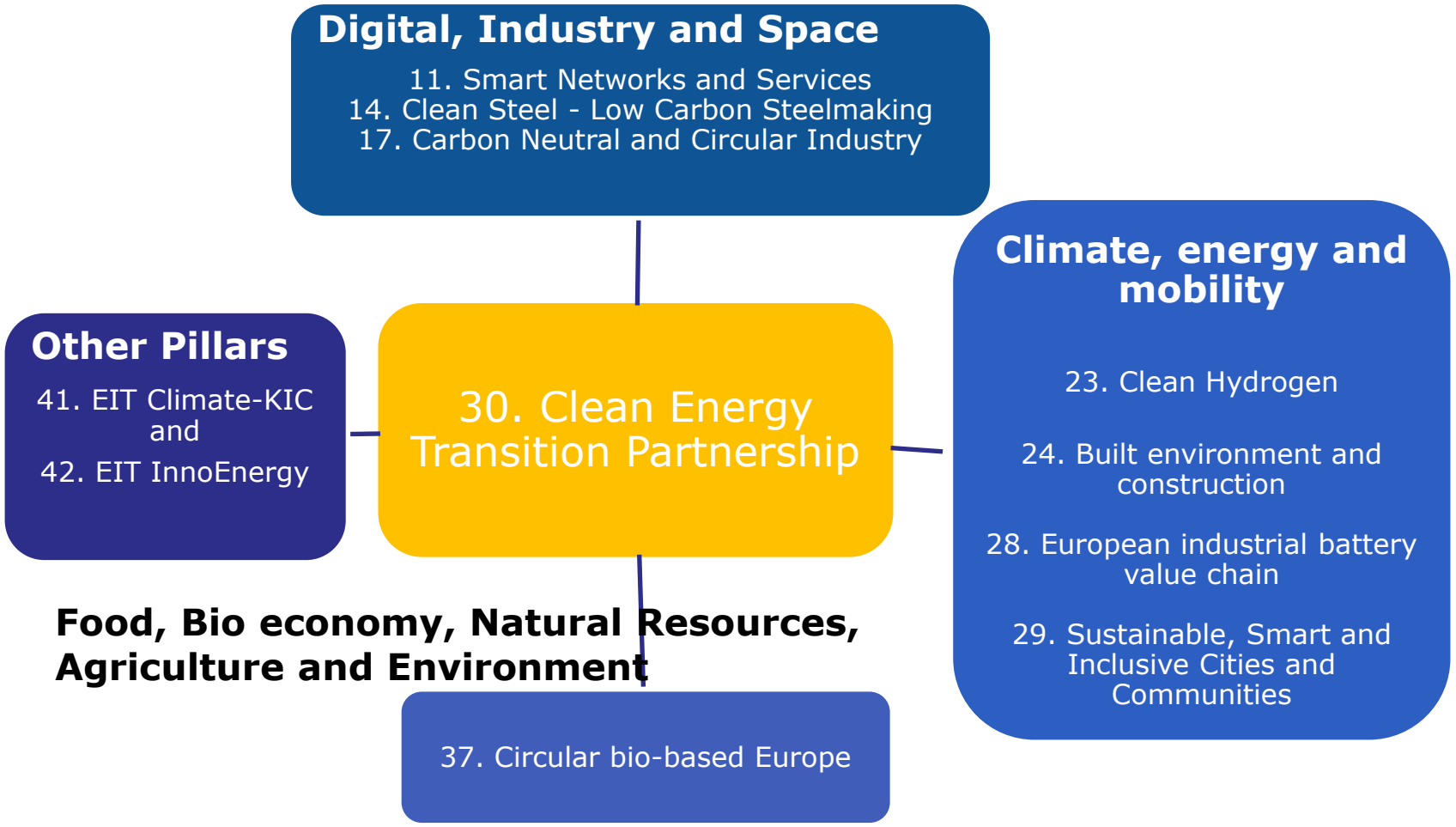
EXPECTED IMPACTS

- Enabling the energy transition from regional to national and global level, co-transformed by industry, public organisations, research and citizen organisations; making Europe a frontrunner by becoming the first climate-neutral continent.

European Commission

Clean Energy Transition

LINKS TO OTHER PARTNERSHIPS



CURRENT STATE-OF-PLAY

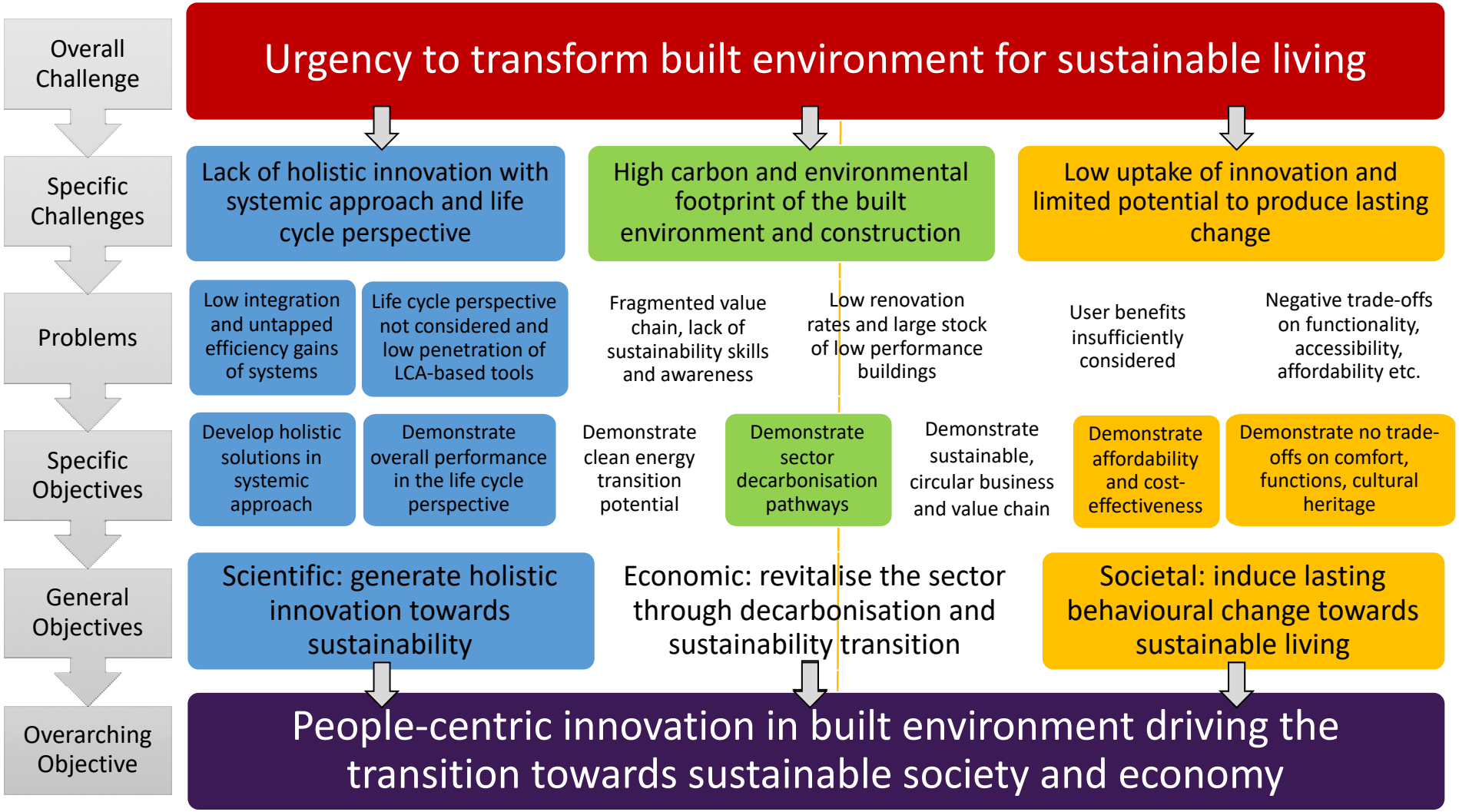
- Discussions still ongoing with CET partners to finalize commitments and efforts are made to mobilise additional programme owners at national and regional level
- The partnership will finalise in 2020 the SRIA, which will be the backbone of the CET programme

People-centric sustainable built environment (Built4People)

European Commission

Built4People - Objectives

➢Co-programmed Partnership, successor of Energy-efficiency Buildings PPP with an enlarged scope



European Commission

Built4People

EXPECTED IMPACTS (1/2)

Decarbonisation, clean energy and mobility

- Achieving at least 40% less embodied carbon with significant reductions in the product and construction stage.
- Enabling a smarter, more decentralised and flexible energy system based on more efficient energy use and renewable energy generation.
- Contribution of the built environment to the decarbonisation of the transport sector by supporting clean mobility.

Resources efficiency and circularity

- Transition from a linear to a circular economy in buildings and construction.
- Increased resource efficiency in the built environment.

Water & Biodiversity

- Reduced (or prevent increase in) risk of water shortages through increased deployment of water harvesting and recycling measures in the built environment.
- Restoration of biodiversity and natural ecosystems in the built environment.
- Symbiotic operation of buildings/infrastructure with natural environment

Resilience

- Reduction in built environment exposed to physical risks from changing climate.
- Increased deployment of sustainable approaches to climate adaptation

Built4People

EXPECTED IMPACTS (2/2)

Value and cost

- Reduced costs of the transition for citizens by ensuring the affordability of new and renovated building stock.
- Increased competitiveness of the EU construction industry and real estate sector.
- Increased long-term value, profitability, sustainability and overall investments performance and investor confidence

Health and wellbeing

- Improved built environment leading to a better quality of living for people as citizens and economic actors.
- Increased health and productivity in the workplace and home through improved indoor air quality, access to daylight and better acoustic and thermal comfort.

Just transition

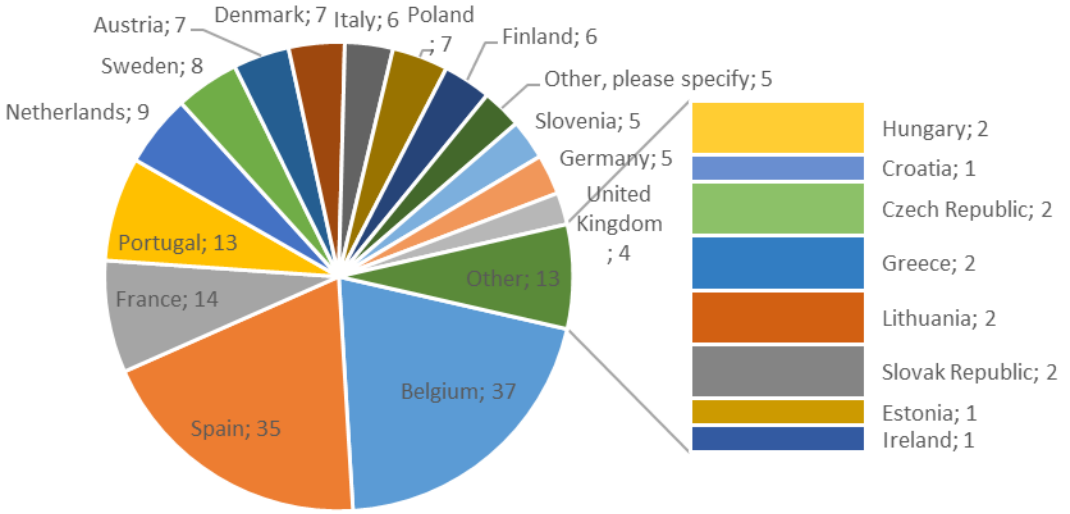
- Creation of higher added value jobs and development of the local economies positively overweighting the socio-economic costs of the transition .
- Promotion of the economic and social development of rural areas to ensure better access to services and infrastructures
- Increased capacity and productivity of the EU construction ecosystem value chain to implement incoming innovations.
- Affordable and accessible buildings ensuring adequate warmth, cooling, lighting for guaranteeing health and a decent standard of living for all.
- Respectful approach to the built environment, including heritage, spatial design and natural landscapes to preserve European identity.
- Enhanced citizen’s engagement, empowerment, participation and co creation.

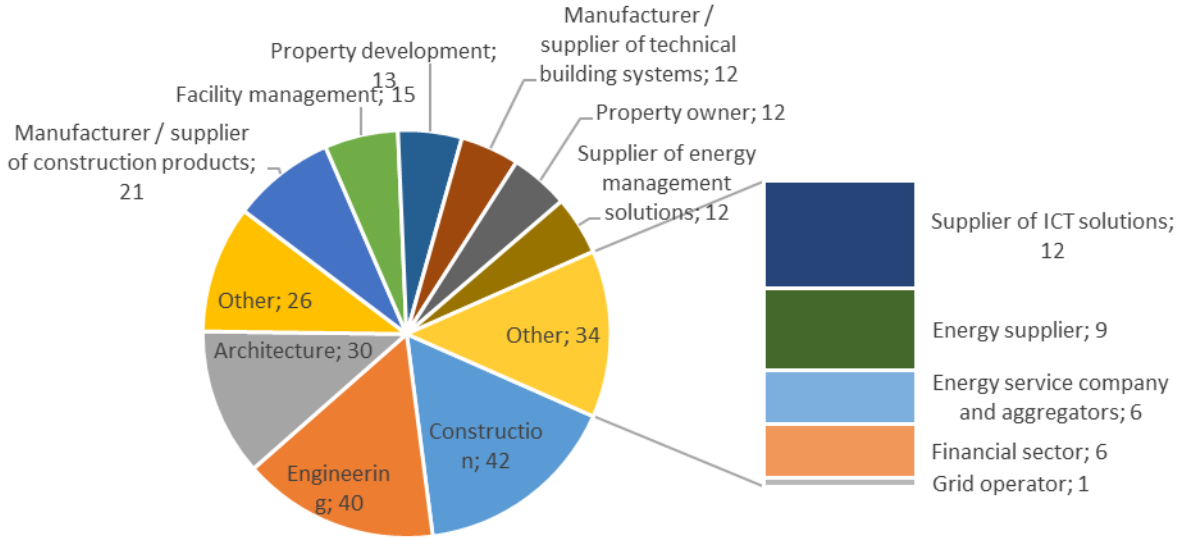
Built4People

CURRENT STATE-OF-PLAY

The Partnership Proposal developed in co-creation with 9 DGs and large community of stakeholders:

- open public stakeholders event: 12.12.2019
- public consultation (Dec 2019 - Jan 2020): 200 answers, good geographical and sectorial coverage





<u>Next steps:</u>

- Development of the SRIA (Mai-June 2020)
- Call topics drafting (June-July 2020)

European Commission

Built4People

LINKS TO OTHER PARTNERSHIPS

- Carbon Neutral and Circular Industry (successor of SPIRE)
- Made in Europe (successor of FoF)
- Circular bio-based Europe (successor of BBI JU)
- European Partnership for Clean Energy Transition
- DUT - Driving Urban Transition Financing: EU initiatives on sustainable financing

Towards zero-emission road transport (2ZERO)

European Commission

Towards zero-emission road transport (2ZERO)

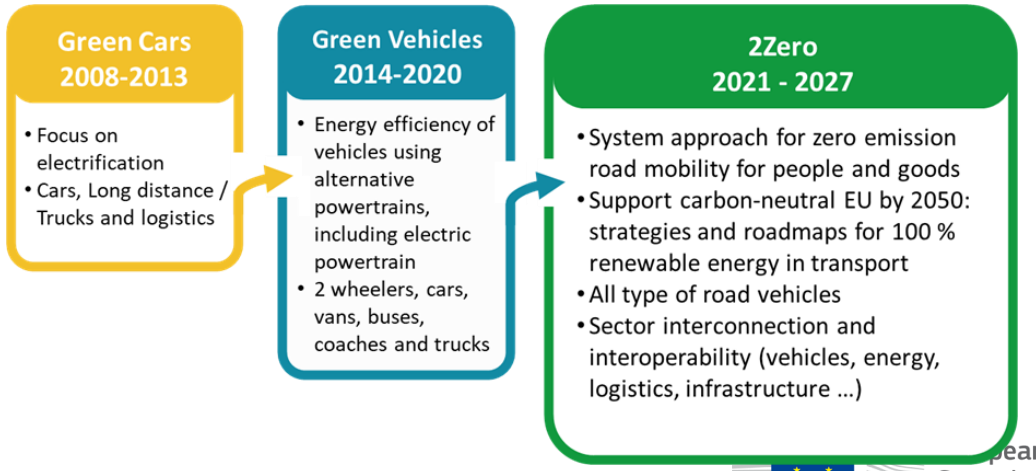
➢Co-programmed Partnership, successor of Green Vehicles Initiative cPPP

OBJECTIVES

- Develop **zero-emission, affordable user centric solutions** (technologies and services) for road-based mobility all across Europe, accelerating users' acceptance
- Develop technologies/solutions to **reduce all emission sources** (e.g. tires and brakes), **noise and improve air quality**
- Develop and demonstrate affordable, user-friendly **charging infrastructure technology and V2G interaction** (digitalisation, smart charging solutions, efficient fast charging)
- Develop **innovative use cases** for integration of **zero-emission vehicles** and infrastructure for **mobility of people and goods**
- Support the development of **life-cycle tools and skills** and deployment of innovative concepts in products/services in a **circular economy context**

EXPECTED IMPACTS

- Support Europe as carbon-neutral continent by 2050
- Technology leadership supporting economic growth and job creation all over Europe
- Wide deployment of zero-emission, affordable user centric solutions
- CO2 emission reduction and air quality improvements



Towards zero-emission road transport (2ZERO)

LINKS TO OTHER PARTNERSHIPS

- Reinforcement of the existing links with "**Key Digital Technologies**"
- Reinforcement of links with "**Clean Hydrogen**" to ensure a smooth transfer of information and possible integration of FC HDV into the transport and mobility system
- Close collaboration with "**Batteries**", needed to ensure a smooth transfer of information: road transport is one of the main applications.
- "**CCAM**" offers opportunities to further improve transport efficiency, improved logistics operations and development of new public and / or private mobility services.
- Additional coordination envisaged with the EIT and the CEF.
- Link to climate neutral and smart cities mission; link to cancer mission

CURRENT STATE-OF-PLAY

November 2019-March 2020: Stakeholders' workshops

20th April 2020 Proposal (final draft) submitted to R&I

SRIA development is currently in process,open to wider stakeholders' arena.

By June 2020: Final draft SRIA/roadmap

Launch of partnership: WP 2021/22 (in 2021)

European Commission

Batteries: Towards a competitive European industrial battery value chain for stationary applications and e-mobility

European Commission

Batteries

➢Co-programmed Partnership, new Partnership

OBJECTIVES

- Short- to medium-term: support the development of a world-class European R&I ecosystem on batteries, with a view towards industrial leadership by Europe in the design and production of batteries for both stationary and mobile applications.
- Longer term: develop futuristic battery technology beyond 2030.
- **Scope:**
  - Development of short to long term technologies and processes for safe and cost-efficient, application of batteries in energy storage and mobility.
  - Value chain approach, from raw materials to recycling.

EXPECTED IMPACTS

- Increase performance of battery technology, while ensuring safety and usability
- Ensure sustainability, recyclability and circularity of batteries
- Accelerated R&D and faster time-to market to maintain EU industry leadership in the field through strengthened industry – academia – policy collaboration

Batteries

LINKS TO OTHER PARTNERSHIPS

- Concrete boundaries discussed with 2ZERO, Waterborne, Clean Aviation, (Rail, Clean Energy Transition) – Cluster 5
- Key Digital Technologies, Made in Europe - Cluster 4
- InvestEU, EIC: Close links with the higher TRL activities for commercialisation
- European Battery Alliance, “Batteries Europe” Technology Platform

CURRENT STATE-OF-PLAY

November 2019-March 2020: Stakeholders’ workshops

20th April 2020 Proposal (final draft) submitted to R&I

June: Information workshop to stakeholders (virtual)

SRIA will b strongly based on/linked to ETIP “Batteries Europe” SRA

By September 2020: Final draft SRIA/roadmap

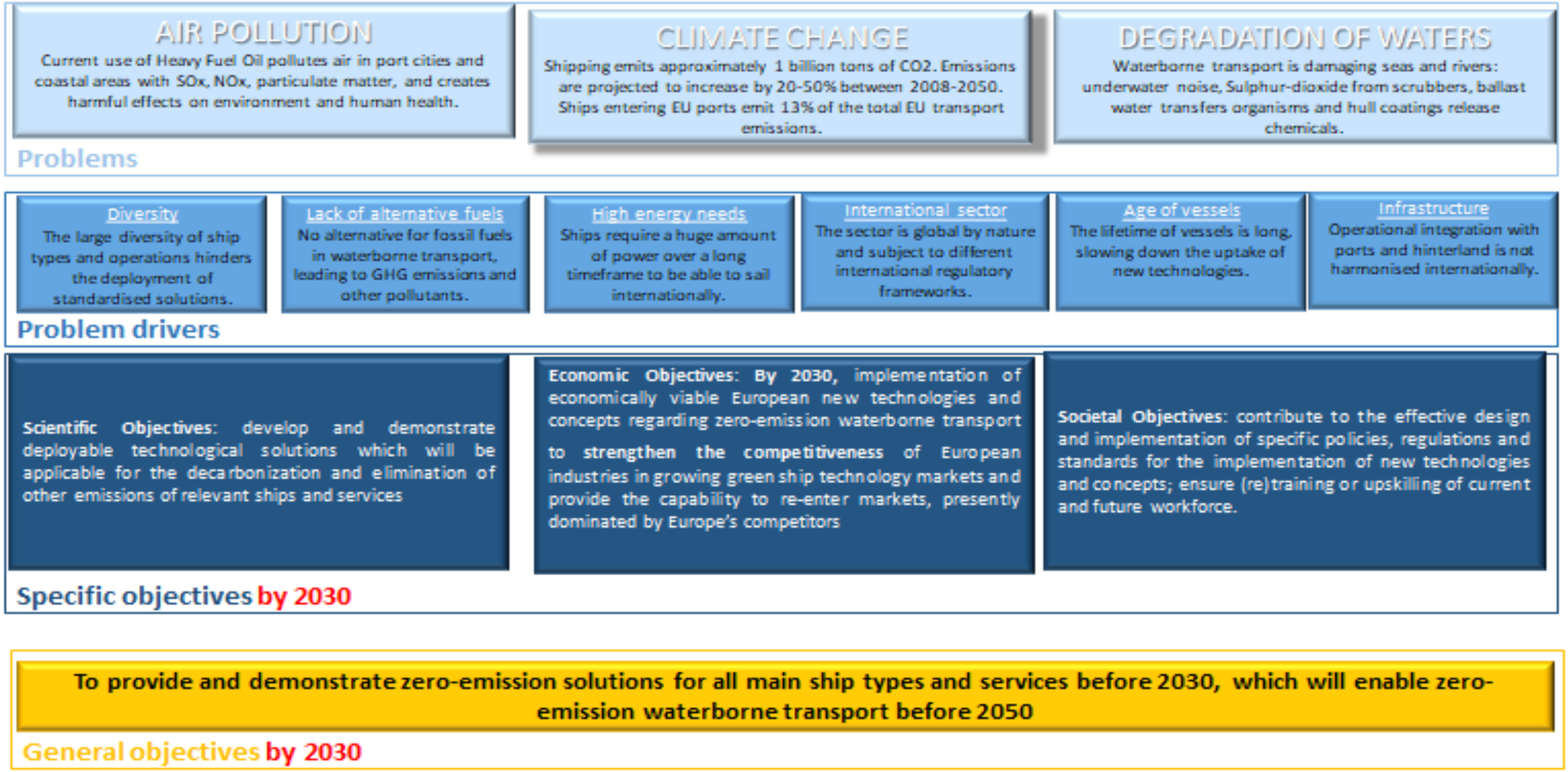
Launch of partnership: WP 2021/22 (in 2021)

European Commission

Zero-emission waterborne transport

European Commission

Zero-emission waterborne transport



Zero-emission waterborne transport

➢Co-programmed Partnership, new partnership

STRATEGIC OBJECTIVE

- **To provide and demonstrate zero-emission solutions for all main ship types and services before 2030, which will enable zero-emission waterborne transport before 2050.**

SPECIFIC OBJECTIVES

- Eliminate **GHG emissions** from both new ships and retrofitting existing ships by means of sustainable alternative climate-neutral fuels, technologies, energy efficiency and renewable energies.
- **Cutting coastal and inland pollution to air** by at least 50% compared to current levels
- **Elimination of pollution to water** (including harmful underwater noise) from ships

EXPECTED IMPACTS

- Address the European **Green Deal objectives**, Implement the **EU long term decarbonisation strategy**
- Achieve **global GHG reduction goals and IMO GHG reduction targets for shipping.**
- Stimulate **modal shift** towards waterborne transport to reduce total transport GHG emissions
- Achieve air and water pollution goals, **improve quality of the environment and benefit human health**
- Improve European **global competitiveness** in terms of innovative **technological leadership and solutions** in green ship technologies, regaining lost markets.

European Commission

Zero-emission waterborne transport

LINKS TO OTHER PARTNERSHIPS

Hydrogen: application, demonstration, development of specialised fuel cells for waterborne

Batteries: Applications on waterborne transport for hybrid and full electric

Connected and Automated Mobility: interfaces between modes

Blue Economy: impact of shipping on marine and inland waters environment

Links to other programs: CEF, ERDF, Invest EU, Innovation Fund, LIFE, EIB Green Shipping Guarantee

Links to Missions: Oceans mission, Climate neutral and Smart cities mission; Adaptation to Climate Change mission

CURRENT STATE-OF-PLAY

November 2019-April 2020: Works on the draft proposal

25 April – meeting with MS

4 May 2020 Proposal (final draft) submitted to DG R&I

SRIA development is currently in process, will be open to wider stakeholder and public consultation.

July 2020: Final draft SRIA

Launch of partnership: WP 2021/22 (in 2021)

Connected and Automated Driving (CCAM)

European Commission

Connected and Automated Driving (CCAM)

➢Co-programmed Partnership, new Partnership

Developing the CCAM Partnership Proposal

- Combining **connectivity, cooperative systems and automation** will enable automated and fully orchestrated manoeuvres, bringing us closer to **Vision Zero**.
- The goal is to create more **user-centred, all-inclusive mobility**, while increasing **safety, reducing congestion** and contributing to **decarbonisation**.
- CCAM will also enable the provision of **new mobility services for passengers and goods**, fostering benefits for users and for the mobility system as a whole.

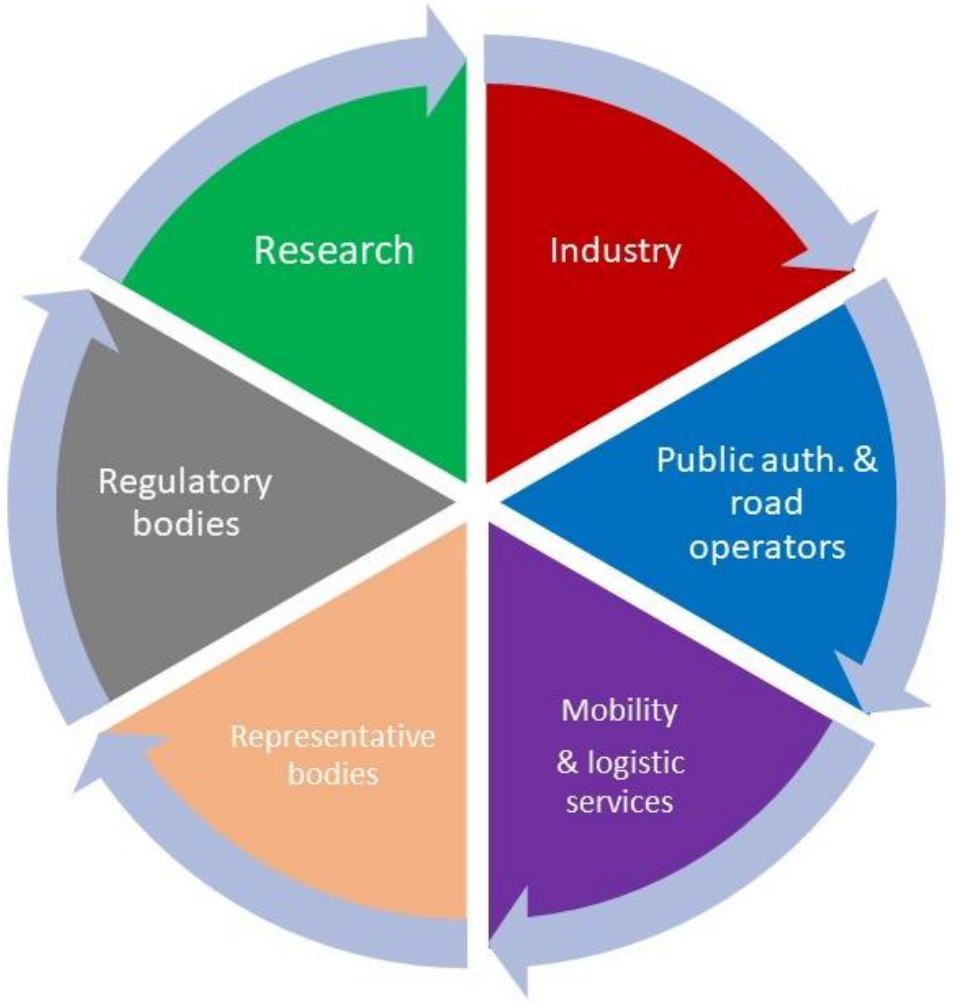
European leadership in safe and sustainable road transport through automation

CCAM Vision and Expected Impacts for Society

The development of CCAM shall provide benefits to **all citizens**. With full integration of CCAM in the transport system, the **expected positive impacts** for society will be:

- **Safety**: Reducing the number of road fatalities and accidents caused by human error;
- **Environment**: Reducing transport emissions and congestion by optimising capacity, smoothening traffic flow and avoiding unnecessary trips;
- **Inclusiveness**: Ensuring inclusive mobility and goods access for all; and
- **Competitiveness**: Strengthen competitiveness of European industries by technological leadership, ensuring long-term growth and jobs.

CCAM Partnership Sectors and Stakeholders



Industry
- Automotive industry, including supply chain
- ITS solutions, telecom providers, connectivity
- Data handling and storage industry, ...

Public authorities & road operators
- Cities and regions
- Transport authorities, road authorities and operators
- Member States

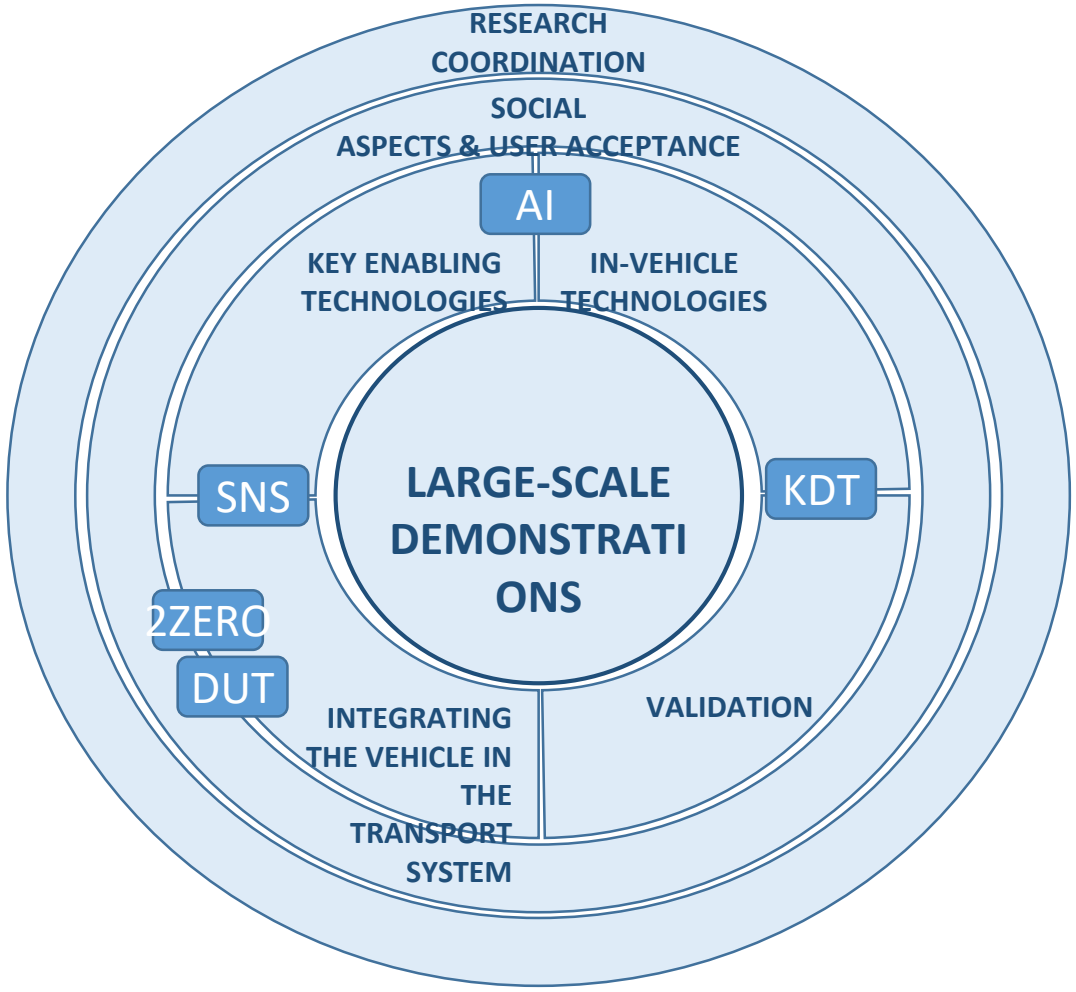
Mobility & logistic services
- Public transport providers
- Mobility and logistics service providers
- Insurance, maintenance, ...

Representative bodies
- Road users
- Stakeholder associations
- Road safety, society, the environment, ...

Regulatory bodies
- National, European and international

Research
- Universities
- Public research institutes
- Private research institutes

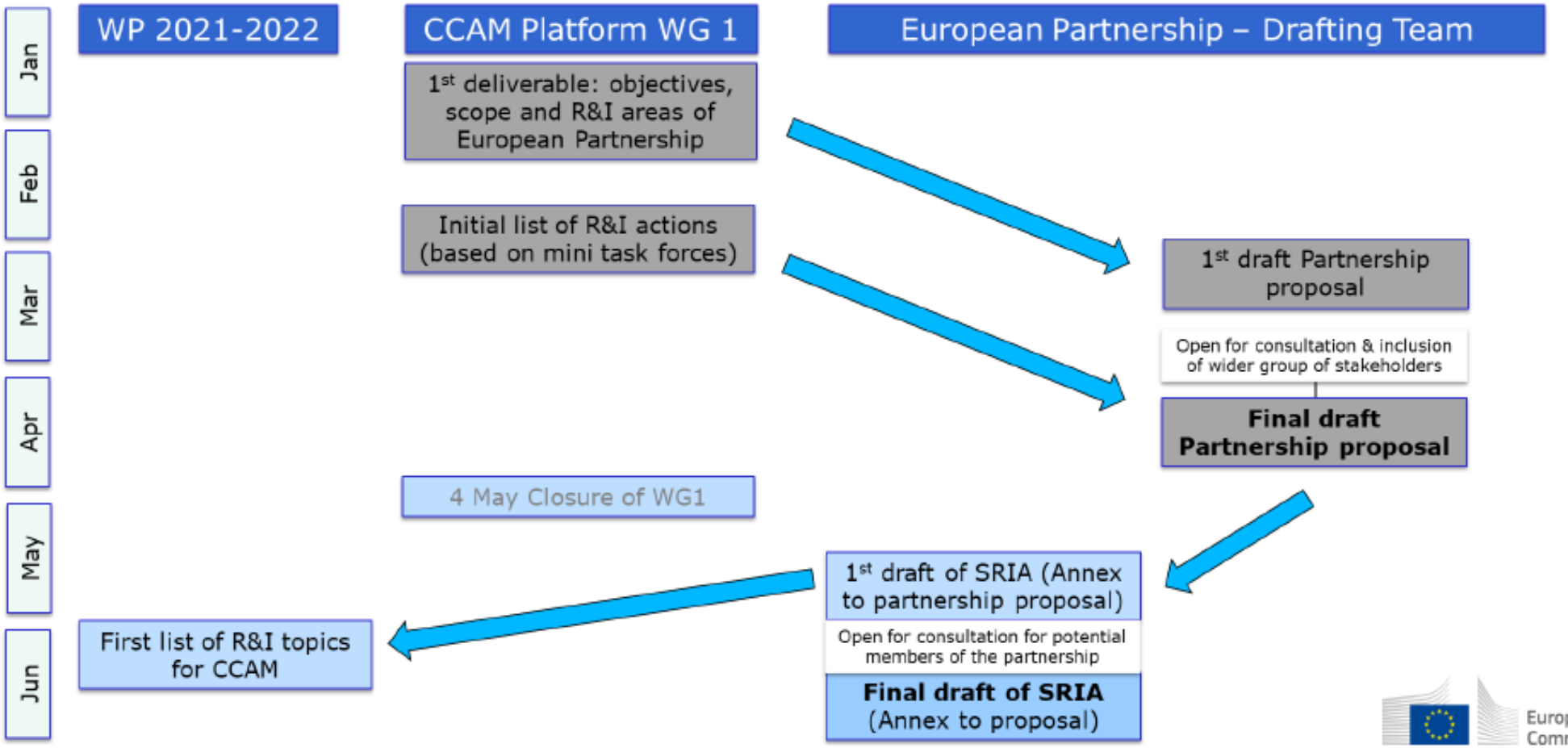
CCAM - R&I clusters & other partnerships



- 2ZERO – towards zero emissions
- DUT – driving urban transition
- KDT – key digital technologies
- SNS – smart network services
- AI – artificial intelligence, data & robotics
- … Collaborative calls

European Commission

CCAM – Workflow to prepare the CCAM SRIA



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