



TorPropel

Toroidal Propellers for Efficient and Sustainable Aviation

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1. Glossary

Term	Description
D&C	Dissemination and Communication
eVTOL	Electric Vertical Take-off and Landing
EU	European Union
RRI	Responsible Research and Innovation
SME	Small Medium Enterprise



2. Executive Summary

This deliverable outlines the Plan for Dissemination and Communication Activities (D5.2) for the TorPropel project, a Horizon Europe Pathfinder Open initiative dedicated to the development and demonstration of toroidal propeller technologies for sustainable and high-performance aviation.

The aim of this deliverable is to define a comprehensive, strategic, and measurable plan to ensure that the project's scientific and technological innovations are effectively communicated to relevant stakeholders and that its societal and environmental benefits are widely disseminated.

TorPropel aims to address several high-impact challenges in the aviation sector by introducing a new propeller concept that enhances aerodynamic efficiency, reduces noise, and enables scalable and recyclable production. The project brings together a multidisciplinary consortium of experts in propulsion, composites, digital design, sustainability, and manufacturing. As such, the dissemination and communication (D&C) activities must be equally multidisciplinary, inclusive, and tailored to diverse stakeholder groups, including researchers, industrial actors, policymakers, regulators, investors, and the general public.

This report sets out:

- The objectives of the dissemination and communication strategy;
- The key messages and their alignment with project goals;
- A detailed mapping of target audiences;
- The channels, tools, and materials to be used across different phases of the project;
- A timeline of planned activities and responsibilities across partners;

The communication plan also integrates principles of Open Science, Responsible Research and Innovation (RRI), and EU visibility requirements, ensuring that TorPropel is fully aligned with Horizon Europe expectations. Coordination with the stakeholder engagement strategy (forthcoming in a separate deliverable, D5.3) and the exploitation framework ensures coherence across WP5.

This deliverable will act as both a guiding document and a practical tool, updated as needed throughout the project to remain responsive to new opportunities, emerging findings, and evolving external contexts in aviation, policy, and sustainability.



3. Deviations

No deviations need to be reported in comparison to the DoA of TorPropel.

4. Introduction

4.1. Purpose of the Document

The purpose of this deliverable is to define and present a clear, actionable, and strategically aligned D&C Plan for the TorPropel project. Dissemination and communication are central to maximising the scientific, industrial, and societal impact of EU-funded research and innovation projects. Horizon Europe places a strong emphasis on ensuring that project results are not only excellent in research terms, but also visible, understandable, and accessible to a wide range of audiences.

This document supports that mandate by providing a structured plan to share TorPropel's innovations, insights, and outcomes, both as they emerge and once validated, with relevant stakeholders. It is also designed to empower each partner in the consortium to contribute effectively to dissemination, and to provide visibility and recognition to their contributions.

The D&C plan is a living document, with initial planning up to Month 6, and forward-looking strategies to be implemented, reviewed, and refined throughout the lifetime of the project.

4.2. Scope of the Plan

The scope of this plan includes:

- External communication activities, such as website presence, social media updates, press engagement, and visual branding (also refer to D5.1);
- Scientific dissemination to the research community through publications, conferences, workshops, and collaborations;
- Industry engagement, including contact with potential adopters, manufacturing partners, and industry associations;
- Public engagement, using accessible language and inclusive outreach methods to reach citizens and educational audiences;
- Support to exploitation and regulation, providing visibility to innovations and gathering feedback from regulatory bodies and end users.



It excludes internal communication between consortium members, which is addressed by the project's internal management procedures.

4.3. Contribution to Project Objectives and Impact Pathways

As elaborated in Section 3, the dissemination and communication activities serve as fundamental mechanisms through which TorPropel achieves its broader impact objectives. These activities target several interconnected goals that extend beyond mere information transfer. Firstly, to elevate the visibility of the toroidal propeller concept within the aerospace community, establishing its credibility as a transformative technology for sustainable aviation. Through strategic engagement with manufacturers, regulatory authorities, and standardisation bodies, these efforts facilitate the practical adoption of project outcomes, the consortium will ensure that theoretical advances translate into industrial applications.

Furthermore, the dissemination strategy is intended to foster meaningful dialogue among researchers, engineers, and industry practitioners regarding the convergence of advanced propulsion systems, novel composite materials, and automated manufacturing processes. This interdisciplinary exchange may catalyse new collaborative opportunities and accelerate innovation across traditionally separate technical domains. The cultivation of public understanding regarding the societal implications of next-generation aerospace technologies is also important for demonstrating how scientific advancement directly addresses environmental challenges and mobility needs.

The communication framework also serves to underscore the European Union's leadership in pioneering sustainable transportation solutions, positioning Europe at the forefront of aerospace innovation. This deliverable thus provides the structural foundation for establishing productive synergies with complementary EU-funded initiatives and research networks. By situating TorPropel within the broader innovation landscape—encompassing green mobility, advanced manufacturing, and aerospace research—the project maximises its potential for lasting impact while contributing to a cohesive European research ecosystem dedicated to addressing the grand challenges of sustainable aviation.

5. Objectives of Dissemination and Communication

The D&C activities in TorPropel are essential to ensuring that the project's novel concepts and results are visible, accessible, and actionable by stakeholders across academia, industry, regulatory bodies, and society. The overarching objective is to maximise awareness, understanding, and impact of TorPropel's disruptive technologies and methodologies through a strategic, inclusive, and coordinated dissemination approach. This objective is therefore not only focused on the transmission of technical findings, but rather the cultivation of a receptive



environment where TorPropel's technologies can be understood, evaluated, and ultimately integrated into the evolving landscape of sustainable aviation.

5.1. Promoting Visibility and Awareness of the Toroidal Propeller Innovation

The primary objective is to establish widespread recognition of the toroidal propeller design as a legitimate breakthrough in aerospace propulsion technology. This highly innovative propeller configuration, characterised by its distinctive closed loop blade geometry, represents a fundamental departure from conventional design principles that have dominated aviation for over a century. The potential benefits, including substantial improvements in aerodynamic efficiency, reductions in acoustic emissions, and enhanced capabilities for integrated structural health monitoring, require careful representation and articulation to diverse audiences. Technical communities must comprehend the underlying physics and engineering advantages, while broader stakeholders need to understand the practical implications for quieter and more efficient air transport. This dual communication challenge will require sophisticated messaging strategies that maintain scientific rigour while ensuring accessibility.

5.2. Facilitating the Uptake and Exploitation of Project Results

The translation of scientific research outcomes into industrial practices and products demands targeted engagement with key market actors who possess the capability to implement these technologies at scale. This involves a diverse ecosystem of potential adopters for the TorPropel technology, from emerging urban air mobility ventures developing electric vertical take-off and landing (eVTOL) platforms to established manufacturers of regional aircraft seeking competitive advantages through next-generation propulsion systems. The composite manufacturing sector represents another important audience, particularly given the project's innovations in vitrimer-based materials that enable repairability and recyclability without compromising aerospace performance standards. The D&C strategy must therefore articulate not only the technical merits but also the economic viability, manufacturing scalability, and certification pathways that determine commercial adoption. This requires developing differentiated communication materials that address the specific concerns and decision criteria of each stakeholder category, from technical specifications for engineers to business cases for executives and investment analyses for financial partners.

5.3. Engage the Scientific and Technical Community

The scientific contributions expected to emerge from TorPropel extend significantly beyond immediate aviation applications, as they entail fundamental advances in materials science, automated manufacturing processes, and digital twin methodologies. The development of vitrimer-based composite tapes for additive manufacturing, by itself represents a breakthrough



with implications across multiple manufacturing industries facing sustainability challenges. Specifically, the project's innovations in robotic tape-laying processes for complex geometries, that also facilitate the integration of real-time structural health monitoring systems, offer methodological advances applicable to diverse engineering domains. Effective dissemination through peer-reviewed publications, international conferences, and collaborative workshops ensures that these contributions enrich the global knowledge base while establishing the consortium's scientific leadership. This academic engagement strategy must balance open science principles with appropriate intellectual property protection, ensuring that knowledge sharing accelerates innovation while preserving competitive advantages for European industry.

5.4. Aligning with Societal and Regulatory Expectations

The societal dimension of aviation technologies has assumed a continuously increasing importance as communities demand accountability regarding environmental impact, aviation safety and noise pollution. TorPropel's communication strategy must therefore engage proactively with public concerns, translating complex technical achievements into comprehensible narratives that clearly demonstrate benefits for citizens. The project's potential to reduce aircraft noise by significant margins directly addresses quality of life issues in communities near airports, while enhancing the recyclability of composite materials responds to growing concerns about the industrial waste from composites manufacturing. Furthermore, the integration of continuous health monitoring systems offers reassurance regarding operational safety, which is particularly important as aviation systems become more autonomous. This public engagement strategy will therefore require carefully crafted messages that avoid overly complicated technical terminology, while maintaining accuracy. Diverse channels must be utilised, from traditional media to social platforms, to reach varied demographic groups.

5.5. Enhance the Reputation and Visibility of the Consortium and the EU

The strategic positioning of TorPropel within the broader European research and innovation landscape serves multiple objectives beyond project-specific goals. By showcasing the successful collaboration of leading academic institutions, innovative SMEs, and established industry partners across multiple European nations, the project can be presented as an example for collaborative efforts that represents European research excellence. The D&C activities must therefore also highlight the collaboration activities, knowledge exchange mechanisms, and cross-border synergies that enable such innovations. This narrative reinforces European leadership in sustainable aviation while demonstrating the practical benefits of coordinated research investment. Furthermore, by establishing connections with complementary initiatives within Horizon Europe and related programmes, TorPropel contributes to an innovation ecosystem wherein individual project outcomes amplify collective impact. This systems-level perspective



ensures that dissemination activities create value not only for immediate stakeholders but also for the broader European research community, policy makers, and citizens who ultimately benefit from technological progress in sustainable mobility.

6. Key Messages

Clear and consistent messaging is essential to ensure that the benefits and innovations of TorPropel are communicated effectively to a diverse range of audiences. Each group, from aerospace manufacturers to local communities, has different interests, technical backgrounds, and values. The messages below are therefore adapted for specific target audiences while remaining aligned with the project's vision and values.

6.1. For Industry and End-Users (e.g. UAV/VTOL Manufacturers, Airlines)

“TorPropel brings a breakthrough in propeller design, safer, quieter, and more efficient toroidal propellers ready to power the next generation of UAVs, commuters and regional aircraft.”

- Superior aerodynamic performance and reduced tip vortex drag
- Lower operating noise for urban and rural applications
- Robotic, scalable manufacturing using recyclable composite materials
- Designed with manufacturability, safety, and sustainability in mind

6.2. For Scientific and Technical Communities

“TorPropel integrates cutting-edge research in propeller aerodynamics, composite materials, robotic manufacturing, and digital modelling for sustainable aviation.”

- High-impact research on toroidal propeller fluid dynamics
- Use of vitrimer resins for reprocessability and damage healing
- Automation and digital twins for design-validation cycles
- Open-science and data-sharing principles applied

6.3. For Policymakers and Regulators

“TorPropel supports Europe’s ambition for clean, safe, and silent mobility by developing propulsion systems that meet tomorrow’s environmental and noise standards.”

- Significant step toward EU noise abatement and decarbonisation targets



- Early engagement with EASA and standardisation bodies
- Data-driven insights for performance and safety certification

6.4. For the General Public and Civil Society

“Imagine aircraft that are quieter, cleaner, and safer, TorPropel is making that future possible through advanced European engineering.”

- Lower noise impact in cities and communities
- Aircraft parts that can be recycled and repaired
- EU-funded innovation for a sustainable transport future

6.5. For Investors and Innovation Platforms

“TorPropel is a high-potential aviation technology backed by EU funding and strong academic-industrial collaboration, poised to disrupt traditional propeller systems.”

- Pathway to market through UAV, VTOL, and regional aircraft platforms
- Validated demonstrators and scalable production technologies
- Strong IPR potential and value proposition for future spin-offs

7. Target Audiences

The dissemination and communication strategy for TorPropel will adopt a systematic approach to stakeholder engagement, recognising that the project's transformative potential can only be realised through meaningful interaction with diverse communities of practice. This comprehensive stakeholder mapping ensures that each audience receives tailored information appropriate to their expertise, interests, and capacity to influence the adoption of toroidal propeller technology.

The **scientific and academic community** constitutes the primary audience, as researchers specialising in aerospace propulsion, advanced composite materials, automated manufacturing systems, and sustainability science possess the technical expertise required for critically evaluating TorPropel's innovations, providing peer validation, and identifying opportunities for cross-disciplinary application. This community encompasses not only established researchers but also doctoral candidates and early-career scientists who represent the future of aerospace innovation. Engagement with this audience through rigorous academic channels ensures that TorPropel's findings undergo thorough



scientific scrutiny while simultaneously inspiring new research directions. The knowledge exchange facilitated through this engagement creates a multiplier effect, whereby validated concepts propagate through research networks, graduate education, and collaborative projects, ultimately expanding the impact beyond the immediate consortium.

Industrial stakeholders within the aerospace and mobility sectors represent a crucial bridge between research innovation and market adoption and implementation. This ecosystem includes manufacturers operating across multiple scales and applications, from agile startups developing urban air mobility solutions to established aerospace corporations seeking competitive advantages through next-generation technologies. The unmanned aerial vehicle (UAV) sector, which has experienced a rapid growth in both commercial and defence applications, presents opportunities for early adoption considering its openness to innovative propulsion solutions and reduced certification requirements. Similarly, the emerging eVTOL market, which intends to solve urban congestion and address environmental concerns, requires precisely the combination of efficiency, low noise, and reliability that toroidal propellers promise. Regional aircraft manufacturers, facing pressure to reduce operational costs and environmental impact while maintaining safety standards, constitute another key segment. Beyond direct aircraft manufacturers, the composite materials supply chain represents a critical audience, as the successful implementation of toroidal propellers depends upon reliable, scalable production of advanced materials. These industrial stakeholders require evidence not only of technical performance but also of manufacturing feasibility, cost-effectiveness, certification pathways, and integration compatibility with existing systems.

The **regulatory and policy landscape** shapes the future of aerospace innovation, making engagement with these stakeholders essential for ensuring that TorPropel's technologies align with evolving standards and contribute to policy objectives. The European Union Aviation Safety Agency (EASA) and its international counterparts establish the certification frameworks that determine market access, while the European Commission and national governments set broader policy directions regarding sustainable transportation, industrial competitiveness, and research priorities. Early and sustained dialogue with these bodies can ensure awareness of regulatory requirements, potentially influencing future standards to accommodate innovative design approaches. This engagement extends beyond mere compliance, positioning TorPropel as a resource for evidence-based policy making regarding noise regulations, environmental standards, and safety assurance methodologies, with the project's findings regarding acoustic performance, structural health monitoring capabilities, and material recyclability providing concrete data to inform regulatory evolution.



Innovation ecosystems and funding platforms represent an opportunity for multiplying TorPropel's impact, offering pathways for sustained development beyond the project's formal conclusion. The Clean Aviation Joint Undertaking, as Europe's primary collaborative platform for sustainable aviation research, provides natural synergies with TorPropel's objectives. Similarly, clusters within Horizon Europe with a focus on materials science, digital technologies, and climate neutrality offer further opportunities for knowledge exchange and collaborative development. National and regional innovation agencies, technology transfer offices, and industry associations serve as intermediaries, translating research outcomes into practical opportunities for their constituencies. Engagement with these networks requires articulating TorPropel's value proposition in terms that resonate with their specific missions, whether focused on technological sovereignty, industrial competitiveness, or sustainability transitions.

Public engagement represents a critical dimension of technology development, particularly for innovations that promise societal benefits while potentially disrupting established systems. Citizens living near airports can directly benefit from noise reduction technologies, while broader public concerns about climate change create receptivity to sustainable aviation solutions. However, effective public communication requires translating complex technical concepts into accessible narratives that maintain accuracy while ensuring comprehension. Educational institutions, from secondary schools to universities, offer structured channels for engaging future generations who will inherit both the benefits and challenges of aviation technology evolution. Media organisations, ranging from specialised aerospace publications to general news outlets, serve as crucial intermediaries in shaping public discourse. This public-facing communication must address not only the benefits but also acknowledge legitimate concerns about aviation's environmental impact, demonstrating how toroidal propellers contribute to meaningful solutions.

8. Communication and Dissemination Channels

The implementation of TorPropel's stakeholder engagement strategy requires a sophisticated multi-channel approach that leverages diverse communication modalities while maintaining message coherence and brand consistency. This orchestrated deployment of channels reflects contemporary best practices in research communication while adapting to the specific requirements of aerospace innovation dissemination.

The **project website** (<https://www.torpropel.com/>) functions as the digital cornerstone of TorPropel's communication architecture, serving simultaneously as an information repository, engagement platform, and demonstration of professional credibility. Beyond basic project



information, the website must evolve into a dynamic resource that chronicles technical progress through accessible progress reports, showcases visual demonstrations of toroidal propeller concepts, and provides differentiated content pathways for varied audience segments. The integration of multimedia elements, including computational fluid dynamics visualisations, manufacturing process videos, and acoustic comparison demonstrations, transforms abstract concepts into comprehensible innovations. Regular content updates, synchronised with project milestones, maintain audience engagement while demonstrating active progress.

Scientific dissemination through **peer-reviewed channels** is fundamental for establishing credibility within the research community while contributing to the global knowledge commons. The selection of publication venues requires strategic consideration, balancing journal impact factors with audience reach and open access mandates. High-impact aerospace engineering journals provide validation within the core technical community, while interdisciplinary venues addressing materials science, manufacturing technology, and sustainability ensure broader intellectual cross-pollination. Conference presentations offer complementary benefits, enabling direct dialogue with peers, immediate feedback on concepts, and network building that often catalyses future collaborations. The commitment to open access publication, aligned with Horizon Europe principles and broader open science movements, ensures that publicly funded research generates publicly accessible knowledge while potentially accelerating innovation cycles through unrestricted information flow.

Social media platforms have evolved from supplementary communication tools to essential channels for research visibility and stakeholder engagement. LinkedIn's professional focus makes it particularly suitable for reaching industry stakeholders, policy makers, and researchers, while its algorithm favours content that generates meaningful professional discussions. The platform enables both institutional messaging through organisational pages and personal engagement through consortium members' networks, amplifying reach through trusted professional relationships. YouTube's visual medium perfectly suits the demonstration of toroidal propeller concepts, from computational simulations to prototype testing, making complex aerodynamic principles accessible to diverse audiences. The platform's global reach and recommendation algorithms can expose TorPropel innovations to unexpected audiences, potentially identifying new application domains or collaboration opportunities.

Traditional communication materials retain significant value, particularly for face-to-face engagement at conferences, trade shows, and stakeholder meetings. Professional brochures and technical fact sheets provide tangible takeaways that outlive brief encounters, while carefully designed infographics can convey complex performance comparisons or environmental benefits in immediately comprehensible formats. These materials require sophisticated design that balances technical accuracy with visual appeal, ensuring they command attention in information-



saturated environments. Digital versions enable easy sharing and updating, while print versions serve contexts where physical materials remain preferred.

Media engagement through strategic press releases and journalist cultivation can amplify TorPropel's reach beyond audiences directly engaged with project channels. Key milestones—such as successful prototype testing, breakthrough performance metrics, or significant partnership announcements—provide newsworthy moments that attract media attention. However, effective media relations require more than passive press release distribution. Proactive relationship building with aerospace journalists, technology reporters, and sustainability-focused media ensures that TorPropel's story receives informed coverage that accurately conveys both achievements and remaining challenges. Coordination with consortium partners' communication departments leverages institutional media relationships and credibility while ensuring message consistency.

Interactive engagement formats represent the frontier of meaningful stakeholder dialogue, moving beyond unidirectional information transmission to facilitate knowledge exchange.

Technical webinars allow detailed presentation of research findings to geographically distributed audiences while enabling real-time question-and-answer sessions that clarify complex concepts and identify application opportunities. Public engagement events, whether at science fairs, aviation museums, or community forums near airports, create opportunities for citizens to directly experience and understand toroidal propeller technology. These interactive formats generate invaluable feedback that can guide both technical development and communication strategy refinement, ensuring that TorPropel remains responsive to stakeholder needs and societal expectations throughout its evolution from laboratory concept to market-ready innovation.

9. Visual Identity and Materials

The establishment of a distinctive and professional visual identity represents a fundamental prerequisite for effective scientific communication and stakeholder engagement within the TorPropel project. This visual framework should function as a strategic tool that facilitates instant recognition, conveys technical credibility, and reinforces the project's positioning at the intersection of aerospace innovation and sustainable technology. The development of this coherent visual language acknowledges that in contemporary research communication, visual elements often precede textual content in shaping audience perceptions and engagement decisions.

The conceptual foundation of TorPropel's visual identity centres on the symbolic representation of the toroidal propeller itself, being a noticeable departure from conventional aerospace imagery, that immediately conveys innovation and transformative thinking. The logo design



process involved careful consideration of how to abstractly represent the circular-loop geometry while maintaining sufficient simplicity for reproduction across diverse media formats and scales. The resulting mark successfully balances technical accuracy with visual accessibility, ensuring that aerospace engineers recognise the toroidal configuration while general audiences perceive innovation and forward momentum.

The supporting visual elements, i.e. colour palette, typography, and compositional principles, were selected through systematic analysis of contemporary design trends in aerospace communication, sustainability messaging, and European research branding. The colour scheme deliberately evokes multiple associations: the blues suggesting both sky and technological precision, greens indicating environmental responsibility, and dark colours reference advanced composite materials. Typography choices prioritise clarity and modernity, employing sans-serif typefaces that convey technical authority while remaining approachable. These elements combine to create a visual language that positions TorPropel as simultaneously cutting-edge and trustworthy—essential attributes for a project proposing fundamental changes to established aerospace technologies.



Figure 1. TorPropel project logo.

The operationalisation of this visual identity through comprehensive template systems ensures consistency across the diverse communication outputs generated by multiple partners across different countries and institutional contexts. The development of standardised templates for presentations, reports, posters, and digital content required careful attention to functional requirements while maintaining aesthetic coherence.

A general project brochure is currently drafted, to serve as the comprehensive introduction, balancing technical substance with accessible explanation through careful information architecture and visual storytelling. Audience-specific fact sheets acknowledge that stakeholders require tailored information relevant to their particular interests and decision-making contexts—investors need different data than regulators, who in turn require different emphasis than potential technology adopters. Infographics and visual explanations transform complex



engineering problems into comprehensible narratives, leveraging the power of visual communication to transcend technical background barriers. The planned development of animated content also recognises that dynamic media increasingly dominates digital communication channels, offering opportunities to demonstrate toroidal propeller motion and benefits in ways that static images cannot achieve.

10. *Communication and Dissemination Activities Timeline*

D&C activities in TorPropel are structured to align with the project's key technical milestones and stakeholder engagement opportunities. The timeline is designed to gradually build awareness in the early stages, intensify engagement during development and testing phases, and consolidate visibility as the project delivers demonstrators and validated outcomes.

The plan is divided into three main phases:

Phase 1: Awareness and Positioning (Months 1–6)

This initial phase focuses on establishing the project's presence and identity. Key activities include:

- Launch of the project website and social media accounts;
- Press release and media outreach around the kick-off;

Phase 2: Engagement and Knowledge Sharing (Months 7–24)

This period covers the active development and testing of the toroidal propeller system. Dissemination will be scaled up to include:

- Scientific publications and conference presentations based on early results;
- Distribution of the project flyer and introductory brochure;
- Webinars and online events targeting researchers and industry;
- Development of visual explainers and animations;
- Participation in relevant exhibitions and trade fairs;
- Social media campaigns tied to major technical milestones (e.g. demonstrator development, materials testing).

Phase 3: Results and Exploitation Support (Months 25–36)

In the final project phase, communication focuses on consolidating impact and preparing for post-project uptake. Planned actions include:



- Final press releases and media outreach highlighting key outcomes;
- Targeted policy briefs and white papers for regulators and standardisation bodies;
- Engagement with investor and innovation platforms to present exploitation pathways;
- Showcase of demonstrators through hybrid events or virtual tours;

11. Preliminary Plan for Event Attendance

Event Title	Location (Next)	Date (Next)	Submission Deadline (Est.)
European Conference of Composite Materials (ECCM)	Oslo, Norway	21–25 June 2026	Abstracts: March 2026 (tbc)
European Conference of Aerospace Sciences (EUCASS)	Rome, Italy	30 June–4 July 2025	Abstracts: Already closed for 2025
Aerospace Europe Conference (AEC)	Turin, Italy	1–4 December 2025	Abstracts: Spring 2025 (tbc)
European Rotorcraft Forum (ERF)	Venice, Italy	9–12 September 2025	Abstracts: 20 February 2025
International Conference on Structural Integrity (ICSI)	Funchal, Madeira, Portugal	1–4 September 2025	Abstracts: 30 April 2025
European Conference on Sustainability, Energy & the Environment	Brussels, Belgium	10–12 June 2025 (EUSEW)	Registration open
JEC World	Paris, France	4–6 March 2025	Exhibition bookings open
JEC World	Paris, France	10–12 March 2026	Planning stages
Aerospace Technology Week	Munich, Germany	2–3 April 2025	Free registration open
Advanced Engineering	Birmingham, UK	29–30 October 2025	Exhibition bookings 70% full



Sustainable Aviation Futures	Amsterdam, Netherlands	11–13 May 2026	TBC
Sustainable Aviation Futures	Houston, USA	14–16 October 2025	TBC
Sustainable Aviation Futures	Singapore	24–26 November 2025	TBC

12. Risk Management

Effective communication depends not only on strategy but also on the ability to navigate challenges. Several potential risks have been identified that could impact dissemination and communication efforts:

Dissemination Risk	Mitigation Action
Low stakeholder interest or engagement	TorPropel will use early and inclusive outreach strategies, leveraging partner networks and events to stimulate interest and build relationships.
Technical complexity of the subject matter	Materials will be developed using layered communication, from high-level explainers to in-depth technical content, to suit different audiences.
Delays in scientific or demonstrator outputs	Communication plans are designed to remain flexible, with general themes (e.g. sustainability, innovation) used to maintain momentum even if some milestones shift.

13. Ethical and Legal Considerations

All D&C activities undertaken in TorPropel will adhere to the ethical, legal, and contractual obligations established by Horizon Europe and the Grant Agreement. These include:

Open Access Requirements: All peer-reviewed publications resulting from the project will be made openly accessible.

GDPR Compliance: Any data collected during stakeholder engagement (e.g. event registration, mailing lists) will be handled in accordance with GDPR. Explicit consent and data handling policies will be clearly communicated.



EU Funding Acknowledgement: All public-facing materials, events, and digital content will include appropriate acknowledgement of Horizon Europe funding (Project No. 101187800) and display the EU emblem, in line with Article 17 of the Grant Agreement.

Responsible Research and Innovation (RRI): TorPropel commits to ensuring inclusiveness, transparency, and responsiveness throughout all communication activities, particularly those involving public audiences and societal actors.

14. Monitoring, Evaluation, and Indicators

Effective D&C require not only a well-defined strategy and activity plan but also robust mechanisms for monitoring performance, evaluating outcomes, and learning iteratively. This section outlines how TorPropel will evaluate the effectiveness of its communication efforts through a blend of quantitative indicators, digital analytics, partner contributions, and reflective review processes. Progress measurement against predefined key performance indicators provides quantitative benchmarks for assessing reach and engagement, but these metrics must be interpreted within broader contexts of audience quality, message resonance, and behavioural impact. Ensuring accountability across consortium partners acknowledges the distributed nature of modern research communication, where individual researchers and institutions contribute to collective visibility through their networks and channels. The commitment to adaptive improvement recognises that communication environments evolve rapidly, requiring continuous refinement of strategies and tactics based on empirical evidence rather than initial assumptions.

14.1. Objectives of Evaluation

The evaluation process is designed to:

- Measure progress against predefined key performance indicators (KPIs), which are listed in Section 14.2 below;
- Ensure accountability across partners for their D&C commitments;
- Inform adaptive improvements to maximise reach and relevance;
- Demonstrate impact to the European Commission, stakeholders, and the public.

This aligns with Horizon Europe's emphasis on openness, visibility, and evidence-based impact pathways.



14.2. Key Performance Indicators (KPIs)

A set of KPIs has been derived from the Grant Agreement and tailored to the specific goals of TorPropel. These KPIs will be used to track progress at regular intervals, and where relevant, are linked to milestones or deliverables.

Table 1. Proposed TorPropel D&C KPIs

Category	KPI	Target Value	Monitoring Frequency	Relevance to Project Objectives
Digital Presence				
	Project website unique visitors	>30 visits/day after Year 2	Monthly	Demonstrates growing awareness of toroidal propeller technology
	Website document downloads	>400 downloads of public deliverables	Quarterly	Indicates stakeholder interest in technical details
	Newsletter subscribers	>200 recipients	Quarterly	Measures sustained engagement with project updates
	Newsletter engagement rate	>25% open rate, >10% click-through	Per issue	Validates content relevance to audience
Social Media Impact				
	LinkedIn followers	>600 by project end	Monthly	Professional network growth and industry visibility
	Social media posts	>100 posts/platform total	Monthly	Consistent communication presence



	Engagement rate (likes, shares, comments)	>5% average engagement	Monthly	Content resonance with target audiences
	Video/animation views	>500 views per content piece	Per release	Visual content effectiveness
Scientific Output				
	Open access peer-reviewed publications	≥ 8 publications	Biannual	Scientific validation and knowledge dissemination
	Conference presentations	≥6 major conferences	Annual	Academic visibility and peer engagement
	PhD dissertations	≥2 during/after project	Annual	Next-generation researcher development
	Citations of project publications	>50 total citations	Annual	Scientific impact and influence
Stakeholder Engagement				
	Technical workshops organised	4 workshops (≥1 per year)	Annual	Scientific validation and knowledge dissemination
	Workshop participants	>150 total participants	Per event	Academic visibility and peer engagement
	Industry consultations/meetings	≥10 bilateral engagements	Biannual	Next-generation researcher development
	Stakeholder feedback responses	>80% positive feedback	Per event	Scientific impact and influence



Public Outreach				
	Press releases issued	≥1 per major milestone	Per milestone	Public awareness generation
	Media coverage mentions	≥20 features	Quarterly	Third-party validation and reach
	Public engagement events	4 open days total	Biannual	Citizen awareness and understanding
	General public reach	>1000 direct interactions	Annual	Societal impact demonstration

14.3. Partner-Specific Dissemination Channels

Each consortium partner brings unique communication assets and opportunities, possessing established relationships with scholarly journals and conference organisers. Industrial partners may also provide access to market studies, trade publications and professional networks typically closed to purely academic entities. National and linguistic diversity within the consortium enables culturally adapted messaging in oral communication within local contexts, while maintaining overall coherence. The requirement for regular updates through shared project infrastructure ensures that communication activities remain coordinated despite geographic and institutional distribution. This systematic information sharing enables strategic timing of announcements, prevents duplicative efforts, and identifies opportunities for amplified impact through coordinated multi-partner initiatives.

14.4. Dynamic Dissemination Strategy Evolution

The conceptualisation of the dissemination and communication plan as a living document rather than static prescription, is widely considered as best practice in contemporary research communication. The commitment to annual systematic reviews ensures that strategies remain aligned with project evolution and external environment changes. The identification of critical project turning points, such as demonstrator validation, major publications and regulatory engagements, as opportunities for strategy reassessment ensures that communication efforts intensify precisely when they can achieve maximum impact. A balanced approach to evaluation, incorporating both quantitative metrics and qualitative stakeholder feedback, enables comprehensive understanding of communication effectiveness. Traffic statistics and publication counts provide objective measures of reach, while stakeholder feedback reveals whether



messages resonate and motivate desired actions. This multi-dimensional assessment framework guards against the common pitfall of optimising for easily measured metrics while neglecting deeper impact objectives.

15. Conclusions and Next Steps

This preliminary dissemination and communication framework demonstrating how TorPropel can effectively engage diverse stakeholders while maintaining scientific integrity. The recognition that the project operates at multiple technological and societal intersections, including aerospace engineering, sustainable manufacturing, circular economy principles, and urban mobility futures, necessitates equally sophisticated communication approaches that can address these multiple dimensions simultaneously. The articulation of communication as integral to research impact, rather than supplementary activity, reflects evolved understanding of how innovation achieves societal benefit. Technical breakthroughs alone, regardless of their potential, create limited value without effective translation to those positioned to implement, regulate, or benefit from them. The living document approach ensures that concrete results, including validated performance metrics, proven manufacturability and successful demonstrators, proven manufacturability, receive appropriate communication emphasis tailored to evolving stakeholder interests and market conditions.

The alignment with Horizon Europe values and expectations extends beyond compliance to embrace the programme's vision of responsible research and innovation. TorPropel commits to open science principles, public engagement, and transparent communication, to maintain its connection with societal needs and values. This approach ultimately enhances not only project visibility but also the likelihood that toroidal propeller technology will successfully transition from laboratory innovation to market reality, contributing meaningfully to sustainable aviation futures.