ACTION PLAN
2023-2024

October 2023 V.1.1

TABLE OF CONTENTS

Contents

THE ZEROPOLLUTION4WATER CLUSTER

Boost synergies between the twin topics
HORIZON-CL6-2022-ZEROPOLLUTION-01-01 & HORIZON-CL6-2022-ZEROPOLLUTION-01-04
in contributing to clean water and zero pollution demonstrations in a climate change context

Executive summary

The working groups within the ZeroPollution4Water Cluster serve as mechanisms for collaboration, knowledge exchange, policy influence, and market uptake. They provide a structured framework for achieving greater impact, fostering innovation, and contributing to sustainable water management practices. The creation of working groups within the ZeroPollution4Water Cluster aims to foster collaboration, enhance synergies, and maximize the impact of the sister and future projects of the Cluster. This Action Plan is composed of the work plan from all 6 working groups for the period JULY 2023 – JUNE 2024.

Strategy summary

The ZeroPollution4Water Cluster aims to contribute to the creation of a toxic-free environment and the realization of a Water-Smart Society by addressing pollution challenges in air, water, and soil. It aligns with the European Union's Zero Pollution ambition and the European Green Deal, with a focus on improving water quality, safeguarding drinking water sources, and protecting groundwater from global and climate change impacts. This involves leveraging collaborative projects funded through Horizon 2020 and Horizon Europe to develop advanced preventive and mitigating strategies, effective risk assessment and management systems, as well as innovative monitoring and treatment solutions for drinking water and groundwater. The current seven sister projects part of the Cluster are: ToDrinQ, H2OforAll, IntoDBP , SafeCREW , Upwater , NINFA and MAR2PROTECT.

To achieve these objectives, the Cluster's strategy revolves around collaboration, knowledge sharing, and policy influence. It fosters cooperation among the seven sister projects and relevant initiatives, creating a synergistic network to facilitate the exchange of best practices, lessons learned, and innovative solutions.

The Cluster adopts a multi-faceted approach that encompasses research and innovation to understand pollution sources, pathways, and their impact on water systems. It also prioritizes proactive strategies for safeguarding water sources and addressing the challenges posed by climate change.

In addition to research and innovation, the Cluster is committed to influencing policy development and implementation. It utilizes the Project4Policy methodology to shape EU policies related to water quality and pollution prevention. Collaborating with the European Commission's relevant policy directorates and agencies is integral to drafting a policy agenda based on case studies, success stories, and best practices from the Cluster projects. These efforts aim to support the implementation of EU policies, particularly within the context of the Zero Pollution initiative and the European Green Deal.

In summary, the ZeroPollution4Water Cluster's strategy combines research excellence, collaboration, knowledge exchange, and policy influence to achieve its objectives of creating a toxic-free environment, enhancing water management, and realizing a Water-Smart Society.

Objectives

The Cluster members agreed on the establishment of the 6 Working Groups (WGs).

The WGs within the ZeroPollution4Water Cluster serve as mechanisms for collaboration, knowledge exchange, policy influence, and market uptake. They provide a structured framework for achieving greater impact, fostering innovation, and contributing to sustainable water management practices. The reasoning behind the establishment of these WGs and their rationale in the Cluster can be summarized as follows:

1. **Internal collaboration and synergy**: The Cluster intends to facilitate collaboration and synergy among the sister and future projects within the ZeroPollution4Water Cluster. By bringing together the expertise, knowledge, and experiences of these projects, the WGs will create a platform for sharing best practices, exchanging insights, and identifying shared challenges and solutions. The WGs facilitate the capitalization of research and innovation achievements from the running sister and the new projects of the Cluster.

2. **Cooperation with other projects and Initiatives**: The Cluster recognizes the value of cooperation within and beyond the EU Research and Innovation Framework Program (FP). The WGs aim to develop cooperative actions with other ongoing and future projects not suitable to be part of the Cluster, including those not funded by the EU R&I FP. This collaboration extends to initiatives like Water4All, Biodiversa+, DUT, Processes4Planet, EU Missions, and other relevant initiatives, Clusters, and alliances. By leveraging these initiatives, the Cluster through its WGs can broaden its scope, access additional expertise, and achieve greater impact.

3. **Policy Shaping and Implementation**: The Cluster, with the support of EC services, seeks to build a critical mass of knowledge and expertise, and enable the production of common policy briefs or recommendations based on evidence from case studies and success stories on effective water management to respond to the needs of the implementation of the EU zero-pollution strategy. The experience gained from the Cluster projects is expected to contribute to the EU policy agenda through the Project4Policy (P4P) methodology. This initiative aims to use research and innovation project results to shape policymaking. The ZeroPollution4Water Cluster, with the support of the EC REA and relevant EC DGs and other EC EAs, will tackle relevant policies such as the Drinking Water Directive (DWD) and Groundwater Directive (GRW), aligning with the Zero Pollution and European Green Deal objectives.

4. **Capitalization of Results and Communication**: The Cluster facilitates the capitalization of research and innovation achievements from the running sister and the new projects. Additionally, the WGs coordinate integrated communication management, ensuring effective outreach to stakeholders and wider interaction.

5. **Sharing Good Practices and Recommendations**: The ZeroPollution4Water Cluster, through the WGs, focuses on developing and sharing good practices and recommendations related to drinking and groundwater management. By addressing cross-cutting topics, the Cluster contributes to knowledge dissemination to foster the adoption of sustainable and effective water management practices.

6. **Market Uptake and Exploitation of Solutions**: The Cluster also develops coordinated support actions for the market uptake and exploitation of solutions developed within the Cluster projects. This emphasis on market-oriented approaches helps bridge the gap between research and practical implementation, facilitating the broader adoption and impact of innovative water solutions. This will be done through coordinated initiatives that intend to foster the matchmaking between demand and offer of solutions, exploiting events or platforms such as the WE (Water Europe) Market Place.

Working group of the ZP4WCluster

After outlining the rationale, the following WGs have been formed, each with its respective objectives as follows:

WG1: Management and Coordination

The Working Group Management and Coordination of the ZeroPollution4Water Cluster plays a crucial role in overseeing and facilitating the Cluster's activities both internally and externally.

One of their primary responsibilities involves developing and maintaining the Cluster's strategy and action plan. This includes preparing, validating, and periodically reviewing the strategic direction and objectives. By engaging in strategic planning, the group ensures alignment with overarching goals for reducing water pollution and promoting environmental sustainability.

In addition to strategic planning, the WG assesses ongoing Cluster activities, monitoring project progress, evaluating outcomes, and identifying areas for improvement. They also validate deliverables from the cluster's WGs and sister projects, ensuring they meet quality standards and contribute to Cluster objectives. To enhance decision-making, the representative(s) of the REA will always advise and participate in the WG, offering valuable insights and knowledge.

Another crucial responsibility is admitting new projects into the Cluster. The WG applies admission criteria to evaluate and select projects aligning with Cluster objectives and possess the potential for meaningful contributions to water pollution reduction and EU Zero Pollution Action Plan goals.

In summary, the WG Management and Coordination of the ZeroPollution4Water Cluster plays a vital role in driving the strategy, coordinating activities, and ensuring successful implementation of the initiatives via webinars, public events, stakeholders' meetings, interaction with policymakers, etc. Through strategic planning, project assessment, validation of deliverables, and new project admission, they actively contribute to achieving the vision of a pollution-free water environment.

WG2 Policy Advisory

The Working Group Policy Advisory of the ZeroPollution4Water Cluster has the responsibility of identifying and developing policy recommendations, papers, or other policy-related documents. These recommendations are based on the activities and outcomes of the various projects within the Cluster. Following the Project4policy principle, this group aims to enhance

cooperation among sister projects to identify important opportunities, challenges, and policy solutions in the water sector, aligning with the research fields of these projects and the EU's political agenda.

Furthermore, the WG will leverage dissemination and communication channels to raise awareness of these opportunities, challenges, and policy options among European Institutions, policymakers, and stakeholders.

WG3 Communication

The Working Group Communication of the ZeroPollution4Water Cluster collaborates to increase the impact of results and innovation emerging from sister projects within the Cluster. This collaboration aims to achieve the following objectives:

1. Facilitate communication regarding joined activities (from the other WG's) within the Cluster and ensure visibility of the Cluster and its members.

2. Disseminate (preliminary) results from each project using networks established within other projects within the Cluster and exploiting the synergies.

3. Promote the uptake and facilitate the continued use of these results.

4. Expand the network of stakeholders across all individual projects within the Cluster by using other interesting networks for dissemination and invites for webinars or other meetings within the projects.

5. Increase impact by combining webinars, workshops, and meetings from various projects with related topics.

WG4 Technology and Innovation

The Working Group Technology and Innovation of the ZeroPollution4Water Cluster seeks to identify, develop, and facilitate the implementation of technology-based solutions for monitoring, managing, and reducing water pollution in drinking water across various sources, treatment processes, and distribution networks, encompassing groundwater, surface water, and wastewater. This group aims to enhance collaboration among sister projects, assess emerging technological and market potential, share best practices (based on case studies of the Cluster projects), and establish a roadmap for innovation and technology development for smart drinking water quality (IT-based) management (e.g.: monitoring, risk assessment, modeling, prediction, and control). This roadmap includes guidelines and a framework for technology transfer and scaling up of successful innovations. The WG also promotes collaboration and knowledge sharing among experts, researchers, technology providers, and industry stakeholders to encourage the adoption and commercialization of innovative solutions, in cooperation with the "From R&I to Impact" WG.

In the TECHNOLOGY SECTION, the WG focuses on gathering and sharing technologies and processes developed by sister projects. An open repository for proposed tools may be created and shared among partners. The overarching goal is to approach water management, monitoring, and treatment processes holistically, considering the relationship between source water quality and by-products formed during drinking water production across diverse countries and practices. Specifically, this WG aims to identify crucial technological solutions in the following areas:

1. Monitoring technologies and processes (real-time soft sensors, satellites, laboratory analytical methods, and processes, etc.)

2. Treatment technologies (novel water treatment processes, innovative disinfection technologies both in the treatment and distribution process, etc.)

3. Decision support and management tools (Digital twins, AI, modeling, sensor placement strategies, forecasting models, holistic models between source and distribution, smart algorithms for what-if scenarios, and decision-making support systems for water governance, optimal control, etc.)

4. Early warning and detection tools (data acquisition platforms, real-time monitoring and data analysis algorithms, detection algorithms e.g., contamination detection and localization, etc.)

In the INNOVATION SECTION, once technologies are identified and developed, the WG focuses on addressing critical challenges related to water safety and public health. Each group of technologies is assessed for its market potential and implementation feasibility. Additionally, gaps in innovation adoption and compliance with regulatory standards are examined. Ultimately, the WG proposes guidelines and frameworks for technology transfer to foster their adoption by water utilities, in close cooperation with the "Policy Advisory" WG.

WG5 Data Management and Sharing

The Working Group Data Management and Sharing of the ZeroPollution4Water Cluster is tasked with identifying the current gaps and developing strategies to enhance data management and sharing practices, with a focus on standardization within the drinking water systems and surface and groundwater management sector. Collaboration among sister projects within the Cluster will be emphasized to exchange data management and sharing needs. This collaborative effort aims to pinpoint existing gaps and propose strategies to homogenize and improve data management and sharing across Cluster projects and within the broader drinking water sector.

In alignment with the EC's guidelines, the WG will actively promote open-source data that is adequately documented, making it easier for collected and shared data in the water sector to be utilized for various purposes.

WG6 Research and Innovation to Impact

The Working Group Research and Innovation to Impact of the ZeroPollution4Water Cluster operates on two key pillars. The first pillar is dedicated to bridging the gap between Research and Innovation and facilitating market uptake in the field of zero pollution for the water sector. The second pillar focuses on facilitating the deployment of three distinct solution types, namely,
1. Cutting-edge competitive technologies
2. Governance models
3. Best practices

Throughout the year, the WG will select several case studies from those explored by sister projects. The selection criteria revolve around the case studies' objectives in achieving zero pollution targets within the water sector (drinking and groundwater). Once proposed

solutions (part of the case study) have been assessed, they may be further ranked by their technology readiness level (TRL).

Furthermore, time permitting, this WG will collaborate with other WGs to explore synergies in objectives and exploitation plans. Specifically, the WG will explore innovative business models, funding/investment mechanisms, and digital tools that can support the deployment of zero pollution solutions. Collaborating with water utility partners, policymakers, and other stakeholders is essential to ensure practical and feasible recommendations.

The WG will evaluate technology characteristics and examine strategies to facilitate uptake, considering economic and political legislative barriers/competitors. This may involve an analysis based on the PESTEL model ((Political, Economic, Sociological, Technological, Legal, and Environmental), focusing on regional/country-specific legislation related to estuaries, and sea, as well as the key competitors (industrial/companies) for each selected innovation.

Additionally, this WG may formulate recommendations to address the R&I gaps, identify needs, and propose further actions for funding contributions, to shape new Horizon Europe Work programs for 2025-2027 and beyond (e.g., the 10th Framework Programme succeeding Horizon Europe).

Working group activity plan (2023 -2024)

Outputs, actions, and deliverables related to the objectives of each working group are summarised as follows:

Objective	Action	Activities	Outputs
WG1 Management and Coordination			
WG1_OBJECTIVE 1	1.1 Cluster global planning	1. Development of the Cluster Action plan 2. Formulation of the Cluster vision and assessment of alignment with the vision 3. Periodic revision of the Cluster's strategy 4. Cluster's progress monitoring and assessment	• Cluster Action Plan • Cluster vision • Presentation of the Cluster Action Plan at Water Knowledge Europe 2023 • Cluster strategy revision
WG1_OBJECTIVE 2	WG strategic planning	1. Facilitation of the development of WGs' strategic plans 2. Support WG in defining their objectives and Action Plans 3. WGs coordination	• WG Work Plan and Future Reviews • Release of quality standards for WG outputs evaluation
WG1_OBJECTIVE 3	Expansion of the Cluster	1. Identification of potential new members of the Cluster (partnerships, projects, …) 2. Definition of the rules for application for new members	• Rules for application/inclusion • Calls for applications • Meeting to present new members to the Cluster

Objective	Action	Activities	Outputs
		3. Management of the applications received 4. Facilitation of integration of newcomers joining the Cluster	
WG1_OBJECTIVE 4	Strategic synergies with stakeholders (including inputs and proposals from the other WGs)	1. Identification of key stakeholders 2. Establishment and maintenance of strategic partnerships 3. Collaboration with stakeholders on joint initiatives	• Agreements, MoUs, LoIs • Group initiatives and collective efforts such as papers and events (with external stakeholders and organisations)
WG1_OBJECTIVE 5	Participation management of the Cluster in events	1. Identification of relevant events and opportunities for Cluster participation. 2. Participation of Cluster members in events, conferences, and workshops 3. Ensuring that Cluster representation at events aligns with its mission and objectives.	• Preparation, management, and interventions into events on behalf of the Cluster, meaning Cluster events and external events • Facilitation of the Cluster strategic positioning through actions and communication
Objective	**Action**	**Activities**	**Outputs**
WG2 Policy advisory			
WG2_OBJECTIVE 1	Analyze the EU's policy and regulatory landscape	1. List planned policy briefs of the 7 projects including dates	• First list of planned policy briefs • List of names of specific target groups, including contacts and ideas on how to interact with them

		2. Specify the target group "policymakers": Name and list suitable policy groups/events 3. Aggregate suitable policy briefs	(who initiates the contact? Which format? Which expected outcome?) • A refined and sorted list of common policy briefs derived from the first list of policy briefs
WG1_OBJECTIVE 2	Produce policy recommendations	1. Identify gaps in the policy landscape that our policy briefs can address meaningfully	• Organise Water Cluster Europe in Oct. 2023 • Produce a first brief on the meeting by the end of 2023

Objective	Action	Activities	Outputs
WG3 Communication			
WG3_OBJECTIVE 1	Define the common strategy of ZP4WC	1. Collect specific objectives of each project; aggregate up to four common aims	• A set of common aims of the ZeroPollution4Water Cluster, documented in the Strategy document and Action Plan
WG3_OBJECTIVE 2	Enable consistent communication & dissemination	1. Collect shortlists per project of key target groups, key activities, key channels, major events, webinars, etc.; select opportunities for common activities 2. Prepare a general web text and a PPT presentation about ZP4W, a guide on how to use all logos; define a set of social media hashtags 3. Set up an initial ZP4W Cluster website	• Common event tracker list • Communication Toolbox (initial set consisting of general web text, PPT presentation, guide on use of logos, set of social media hashtags) • ZP4WC website

WG3_OBJECTIVE 3	To disseminate outcomes	1. Develop a template to collect comparable information about the sites and opportunities 2. Collect a list of topics, aggregate common topics, and draft a preliminary order, including format and target group 3. Collection of planned policy briefs per project, identification of common policy briefs 4. Prepare communication and dissemination goals and format, organize participation, and present. 5. Decide on the first topic, target group, and format, collect input from projects, set a date, announce the event, conduct, and evaluate.	• Case Study Inventory, describing the key features of each case study • List of common topics for webinars or workshops • List of intended policy briefs highlighting common topics • Active participation at Water projects Europe (19 Oct 2023) • The first common online webinar (4th quarter of 2023) proposed by SafeCREW and intoDBP, H2OforAll and ToDrinQ contribute
WG3_OBJECTIVE 4	To join forces and increase the stakeholder network	1. Based on the list of common topics, define contributors, format, timing, and target groups, and draft a schedule.	• Plan for common participation in events
Objective	**Action**	**Activities**	**Outputs**
WG4 Technology And Innovation			
WG4_OBJECTIVE 1	Creation of a knowledge hub	1. Planning and management (Define the purpose of the hub, the structure, the users and the target audience, the managers, etc.) 2. Content Creation (what type of information should be included, e.g., technical reports categorizing the proposed	• Planning of workshops/webinars for sharing knowledge (involving industries and potential users – Communities of Practise) • Create a platform or an online repository (e.g., GitHub) to gather

		technologies per project, implementation of the case studies, produced research papers, etc.) 3. Setting up the platform for the knowledge hub 4. Series of Webinars	and store all the available information
WG4_OBJECTIVE 2	Identification of technological and implementation gaps	1. Preparation of reports/presentations per case study per project 2. Series of webinars	• Joint reports/publications on solutions and technological gaps • Webinars
WG4_OBJECTIVE 3	Recommendations to the EC	1. Meetings between the WG members to define the strategy for publishing the WG's recommendations	• White paper with recommendations regarding efficient implementation of developed technologies and monitoring/management tools
Objective	**Action**	**Activities**	**Outputs**
WG5 Data management and sharing			
WG5_OBJECTIVE 1	Identify gaps in data management & sharing	1. Review data management and sharing strategies of the sister projects 2. CoP on data management and sharing with water utilities and operators 3. Identify the current needs of the field	• Plan workshops with relevant stakeholders • List current gaps and needs in data management and sharing within the drinking water sector

Objective	Action	Activities	Outputs
WG5_OBJECTIVE 2	Ensure data interoperability and sharing	1. Identify needs and gaps for data interoperability and sharing 2. Define semantics on data management and sharing in the drinking water sector 3. Define strategies for proper data interoperability and sharing	• Elaborate a guideline for data interoperability • Develop a strategy for data sharing • Develop and implement dictionaries, terminology, and ontology to homogenize the semantic
WG5_OBJECTIVE 3	Guidelines on metadata organization	1. Identify the gaps and need for metadata 2. List types of data and meta-data 3. Identify data and meta-data structures 4. Define strategies for metadata organization	• Set up relevant metadata and potential structures • Elaborate a guideline for metadata organization
WG5_OBJECTIVE 4	Common data structure & propose open data system	1. Review the existing open-source data structures 2 Identify relevant characteristics for a common data structure 3 Define a common and open-source data structure	• Identify what are the existing data structures • Define a common structure for data management and sharing
Objective	**Action**	**Activities**	**Outputs**
WG6 Research and Innovation to Impact			
WG6_OBJECTIVE 1	Selection of case studies	1. Check the objectives, solutions proposed, and expected results for each project	• Table with the expected impacts of the call of each project

		2. Find synergies, overlaps, and gaps 3. Compare projects' expected impacts and compare with the expected impacts from the call	• Table with case studies
WG6_OBJECTIVE 2	Ranking of the selected case studies	1. Define the Market uptake and Investment needs and gaps. 2. Define the main results and select case studies for joint exploitation 3. Define the main results and select case studies for joint exploitation	• Table with selected case studies and related information (scope, novelty, etc.) and expected impact
WG6_OBJECTIVE 3	Bridge the gap between R&I and market uptake	1. Analysis of the Market uptake and Investment needs and gaps 2. Assess the current state of market uptake, including best practices and successful models 3. Advice the EC on Market uptake relevant policies and instruments, to better serve the needs	• Recommendations for market uptake
WG6_OBJECTIVE 4, 5 & 6	Facilitate the deployment of the Cluster solution	1. Connect promising solutions to existing Market uptake support and Investment instruments 2 Make an inventory of the Exploitation strategies for the solutions based on a selection of Zero Pollution case studies.	• Recommendations for the deployment of Cluster solutions

		3 Define the main results and select case studies for joint exploitation	

Working group GANTT (July 2023 – June 2024)

Objective	Outputs	2023						2024					
		JULY	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE
WG1 Management and Coordination													
1. Cluster global planning	1. WG Work Plan preparation		▓	▓									
	2. Annual review of the WP – September 2024												
2. WG strategic planning	1. Development of the Cluster Action Plan						▓	▓					
	2. Presentation of the Cluster Action Plan at Water knowledge Europe event				▓								
3. Expansion of the Cluster	1. Management of the applications to include new members in the cluster							▓	▓	▓	▓	▓	▓
	2. Integration of new projects into the Cluster							▓	▓	▓	▓	▓	▓
4. Strategic synergies with stakeholders	1. Strategic synergies with stakeholders							▓	▓	▓	▓	▓	▓
5. Participation management of the Cluster into events	2. Communication and dissemination of the SRIA							▓	▓	▓	▓	▓	▓
WG2 Policy advisory													
1. Analyze the EU's policy and regulatory landscape	1. List planned policy briefs of the 7 projects			▓									
	2. Specify the target group "policymakers"			▓									
	3. Aggregate suitable policy briefs									▓			
2. Produce policy recommendations	1. Organise Water Cluster Europe in oct. 2023				▓								
	2. Produce a first brief on the meeting by end of 2023						▓						
WG3 Communication													
1. Define Common strategy of the ZP4WC	1. Define Common strategy of the ZP4WC	▓	▓	▓									
2. Enable consistent communication and dissemination	1. Common event tracker list				▓	▓							
	2. Communication Toolbox				▓	▓							
	3. ZP4WC website				▓	▓							
3. To disseminate outcomes	1. Case Study Inventory, describing the main features of each case study					▓	▓						
	2. List of common topics for webinars or workshops					▓	▓						
	3. List of intended policy briefs highlighting common topics					▓	▓						
	4. Active participation at Water Projects Europe (19 Oct 2023)				▓								
	5. First common online webinar (4th quarter of 2023)						▓						
4. To join forces and increase stakeholder network	1. Plan for common participation in events							▓	▓	▓	▓	▓	▓
WG4 Technology And Innovation													
1. Creation of a knowledge hub	1. Planning and management	▓					▓						
	2. Content Creation							▓	▓	▓	▓	▓	▓
2. Identification of technological and implementation gaps	1. Preparation of reports/presentations per case study per project							▓	▓	▓	▓	▓	▓
	2. Series of webinars										▓	▓	▓
3. Recommendations to the EC	1. Meetings between the WG members to define the strategy for publishing the WG's recommendations							▓	▓	▓	▓	▓	▓
WG5 Data management and sharing													
1. Identify gaps in data management & sharing	1. Review data management and sharing strategies of the sister projects				▓	▓							
	2. CoP on data management and sharing with water utilities and operators							▓	▓	▓	▓	▓	▓
2. Ensure data interoperability & sharing	1. Identify needs and gaps for data interoperability and sharing							▓	▓				
	2. Define semantics on data management and sharing in the drinking water sector								▓	▓			
	3. Define strategies for proper data interoperability and sharing									▓	▓		
3. Guidelines on metadata organization	1. Identify the gaps and need for metadata							▓	▓				
	2. List types of data and meta-data							▓	▓				
4. Common data structure & propose open data system	1. Review the existing open-source data structures							▓	▓				
	2. Identify relevant characteristics for a common data structure							▓	▓				
WG6 Research and Innovation to Impact													
1. Selection of case studies	1. Check the Objectives, solutions proposed, and expected results for each project					▓							
	2. Find synergies, overlaps, and gaps					▓							
	3. Compare projects' expected impacts							▓					
2. Ranking of the selected case studies	1. Define the Market uptake and Investment needs and gaps.							▓					
	2. Define the main results and select case studies for joint exploitation										▓		