



Deliverable 2.1

AQUAEXCEL3.0 Impact Plan Template

Version 1

WP 2
Deliverable 2.1
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1. Introduction

AQUAEXCEL3.0 has a particular ambition to continue efforts to be a driving force of innovation in the aquaculture sector. By stimulating research on the priorities put forward by the European industry, as well as designing a pathway to make experimental researchers more aware of the impact and innovation potential of their findings, AQUAEXCEL3.0 will contribute to bridging the gap between academia and industry.

To do this, AQUAEXCEL3.0 implements a tried and tested **Knowledge Management and Transfer methodology**, to facilitate the collection and exploitation of all Knowledge Outputs (KO) arising from the project (including scientific outputs, new methodologies, protocols and experimental approaches as well as de novo knowledge and new strategies). The KOs will be assessed on their innovation capacity and relevance to the sector by the Industry and Research Advisory Panel (IRAP), which acts as the interface between the research community and the aquaculture industry. Established indicators of innovation (e.g., according to the guidelines described in OECD/Eurostat Oslo Manual, 2018) will provide a framework for categorization and selection of potentially High-Impact Outputs. The high-impact KOs, also called Key Exploitable Results (KERS), will be transferred to identified end-users, ensuring application and uptake that will benefit the aquaculture sector. This proven methodology was previously successfully applied in FP7-AQUAEXCEL and AQUAEXCEL²⁰²⁰ and is described in full in D3.1 Dissemination and Exploitation Plan.

This deliverable describes the first necessary step within the knowledge management and transfer process that will be ongoing throughout the whole of the AQUAEXCEL3.0 project, namely the development of the Impact Plan template to collect Knowledge Outputs.

2. Knowledge Management and Transfer Methodology

In its broad-based innovation strategy for the EU, the importance of improving Knowledge Transfer (KT) is identified by the European Commission as one of the key areas for action (http://ec.europa.eu/invest-in-research/pdf/download_en/knowledge_transfer_web.pdf). To be able to transfer knowledge we need to manage knowledge. Knowledge Management is the process of creating, organising, capturing/sharing/distributing knowledge to ensure its availability for future users. AQUAEXCEL3.0 employs a proven Knowledge Management and Transfer methodology in order to effectively address this key aspect of facilitating project impact. AQUAEXCEL3.0 knowledge and data management methodologies are described in more detail in D3.1 AQUAEXCEL3.0 Dissemination and Exploitation Plan (DEP) finalised in M3 (January 2021).

Knowledge Transfer (KT) is the overall process of moving knowledge between knowledge sources to targeted potential users of the knowledge. KT consists of a range of activities that aim to capture and transmit knowledge, skills and competence from those who generate them to those who will transform them into added value outcomes. It encompasses both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spin-off creation, researcher mobility, and publications. While financial benefits can be expected, KT helps focusing research being conducted on the wider needs of society and industry. The ultimate end benefit of successful KT is the application and influence of knowledge on targeted communities with greater impact (short and long

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term) across the triple helix of academia, industry and society ([http://europa.eu/rapid/press-release MEMO-07-127_en.htm?locale=en](http://europa.eu/rapid/press-release_MEMO-07-127_en.htm?locale=en)).

AQUAEXCEL3.0 implements the Knowledge Management and Transfer methodology originally developed in the FP7 MarineTT project, and subsequently developed to its existing design by the H2020 COLUMBUS project. This methodology has been successfully applied in many other EU-funded and national projects. The methodology focuses on Knowledge Outputs or Key Exploitable Results, which describes a unit of knowledge that has been generated out of a scientific project. It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, alternative applications of prior know-how/knowledge (Definition developed by AquaTT in the context of Knowledge Management from www.colombusproject.eu).

The methodology consists of the following three overall phases:

- a) Collect and Understand,**
- b) Analyse and Validate,**
- c) Transfer and Exploit.**

ERINN Innovation is responsible for implementation of the collection (phase a) and analysis (phase b) activities around outputs from both TNA providers and the JRA related Work Packages: WP4, 5, and 6. The AQUAEXCEL3.0 Impact Plan template will be available for download through the TNA Management Box System by all TNA users, as well as distributed on a regular basis to WP4, 5 and 6 task leaders.

ERINN Innovation will check, revise, and finalise Impact Plans for each collected KO, in collaboration with the individual owners of that KO, with the aim to make them fit for assessment and evaluation by the IRAP. EATiP will administer the IRAP to select potential high-impact (from AQUAEXCEL²⁰²⁰ and AQUAEXCEL3.0) for transfer to end users, at IRAP (videoconferencing) meetings (scheduled at M14, M26, M38, M50).

3. Impact Plan template

The Impact Plan template is used to collect, understand, analyse, validate and manage all Knowledge Outputs. The template consists of three separate tabs:

1. Introduction, which gives an overview to the user about how to use the template.
2. Template to be completed, this is the main Impact Template for completion by all users.
3. Definitions, this sheet gives definitions of key concepts, including (See Annex 1 for full definitions):
 - a. Knowledge
 - b. Output
 - c. Knowledge Transfer
 - d. Output Type(s)
 - e. Theme(s)
 - f. EATiP thematic areas (TAs) and their goals (G)
 - g. End User Types

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h. Impact

3.1. Data collected for Impact Plans.

The Impact Plan template was developed in Excel, a format that was utilised in FP7-AQUAEXCEL and AQUAEXCEL²⁰²⁰ and was successful for collection, analysis and selection. The template has evolved based on user experience and is optimised for efficient implementation of all 3 phases. For each Knowledge Output collected, information on the output type, themes and goals, potential applications, users and impact are required from the KO owner. Specific guidance and instructions are given for each subheading in the template to support the user in completing the template.

1. Introduction page

AQUAEXCEL3.0 - Project OUTPUT Impact Plan Template

INTRODUCTION

AQUAEXCEL3.0 employs a Knowledge Management and Transfer methodology to ensure that all relevant knowledge coming out of the project will be collected, transferred and taken up by relevant users so we deliver impact and create value from our activities.

As a first step in the process, all (finalised) project **OUTPUTS*** will be captured in this internal Template (see next worksheet: 'Template to be completed'), along with their detailed descriptions. Your responses will help us to assess whether an **OUTPUT** is of high potential to deliver impact and to get insight into what steps can be taken next to ensure your **OUTPUT** reaches the users who can take it up.

We would like to emphasise that you can share your **OUTPUTS** without compromising IP or affecting your potential to publish later.

* see definitions worksheet for explanation



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2. Information on Output

To be completed by ERINN	Please provide a short and concise title to describe your OUTPUT . If you have more than one OUTPUT , please add each OUTPUT to a new row.	Try to give a comprehensive description , making the OUTPUT <u>fully understandable to a non-expert</u> . <ul style="list-style-type: none"> Start by explaining what the knowledge need was; why was the research leading to this OUTPUT needed, what kind of challenge does the OUTPUT address? What was the underlying science / methodology (few lines)? What are the main results? Highlight what the key characteristics of the OUTPUT are. What is new and innovative about it? How does it progress beyond the current state-of-the-art / evidence base? Do you have a justifying body of evidence, or are there contradictory results? If the OUTPUT is: -Technology based, then please indicate TRL level (1-9) -Able to inform evidence-based policy, then please indicate whether further validation/contextualisation would be required. -Relevant to the scientific community, then please indicate whether the OUTPUT is conclusive or whether further detail/research would be required.	If the OUTPUT is resulting from a TNA project, please indicate here your Project Code and Acronym. If the OUTPUT is resulting from the AQUAEXCEL3.0 project itself (NA or JRA), please indicate here the WP and Task it is related to	DROPDOWN MENU - Please choose one option. This should describe the format in which the OUTPUT is presented. If 'data' or 'other' is chosen please provide detail in Column T (notes).
Id.	Short Title	OUTPUT Description	OUTPUT Origin	OUTPUT Type

3. Information on theme, EATiP Thematic Area and Goals

<p>DROPDOWN MENU - Choose one or more themes your OUTPUT falls under.</p> <p>If more than one theme is applicable, please add each on a new, separate row.</p>	<p>DROPDOWN MENU - To which of the Thematic Areas of the European Aquaculture Technology and Innovation Platform (EATiP) does your OUTPUT contribute?</p> <p>(for details on the EATiP Thematic Areas you can check the 'Definitions' worksheet --> row 7)</p> <p>If more than one Thematic Area is applicable, please add each on a new, separate row</p>	<p>DROPDOWN MENU - To which of the goals within the Thematic Areas identified in column G does your OUTPUT contribute?</p> <p>Again, check the 'Definitions' worksheet --> row 7, for details on the Goals</p> <p>If more than one Goal is applicable, please add each on a new, separate row</p>	<p>Please provide contact details of the most relevant person to provide further information, if required, on this OUTPUT.</p> <p>Please indicate if the beneficiary/owner of the OUTPUT differs from the contact person?</p>	<p>Yes or No</p>	<p>If you can provide a link to the OUTPUT then please do so, e.g. digital object identifier (DOI), web address, download, research paper.</p> <p>If the OUTPUT is not publicly available currently but will be in the future, please provide details. Also, if it is available but only upon request, please state this.</p> <p>If the OUTPUT is not planned to be publicly available, please state "Not publicly available".</p>
OUTPUT Theme	EATiP Thematic Areas	EATiP Goals	Contact Information	Publicly Available?	Link to OUTPUT

4. Details on potential end users and applications

<p>DROPDOWN MENU - Please choose as many options as required.</p> <p>End User is the person who actually in the end uses the OUTPUT once it has been fully developed, marketed, installed, etc.</p> <p>There can be more than one type of End User, e.g. individuals from Industry, Scientific Community, Policy Makers, Environmental Managers, Education, etc. If Other is chosen from the drop down menu, please try to specify in the Notes Column (T)</p> <p>If more than one End User group is applicable, please add each on a new, separate row</p>	<p>This refers back to column M (End User). Here we would like more detailed information on each End User (group) you have previously identified.</p> <p>Try to be as specific and detailed as possible, for example, if you have chosen 'Industry Stakeholder', a more detailed description could be 'salmon farmers' or 'Aquaculture equipment industry', or 'Seahorse feed producer', etc</p> <p>If you have chosen 'policy makers', try to indicate the exact type and level, e.g. European Commission – DG Research & Innovation / Directorate E (Health) / E1 Strategy.</p>	<p><u>Per identified End User (previous column)</u>, please identify possible applications of the OUTPUT. How can the End User use/apply your OUTPUT?</p> <p>For each application identified, please use a separate row, linking it with the relevant End User in the previous column.</p> <p>Try to be as specific as you can and include an indication of timescale to application (short, medium, long-term).</p>	<p>Please provide details/numbers if IPR has been applied to this OUTPUT (applied for a patent, copyright etc) or "no" if not applicable.</p> <p>Please insert "unsure" if IPR has not been considered yet.</p>	<p>What is the Status of your OUTPUT in terms of TRL? Is it completely finalised (and so ready for immediate take up by the identified end user), or is more research or demonstration needed?</p> <p>Consider:</p> <ul style="list-style-type: none"> • Technology based, then please indicate TRL level (1-9) • Is your OUTPUT conclusive enough; in its current state, will it already make an impact on, or can it already be applied by the End User(s) you identified? • Is there a justifying body of evidence, or are contradictory results available? • Does your OUTPUT progress beyond the current state-of-the-art / evidence base? • Is more research or demonstration needed to validate your OUTPUT?
End User	End User Description	Potential Application	IPR Protection	Status

5. Potential impact and exploitation

<p>What do you think could be the potential resulting impact of this OUTPUT once it has been transferred to and taken up by the End User(s)? Try to quantify where possible.</p> <p>Indicators of impact could be (examples, there could be other); proven increased productivity, more environmental-friendly solutions, a patent grant, the creation of a spin-offs, new research agreements with SMEs, etc.</p>	<p>Indicate any dissemination / transfer activities that are planned for or have been undertaken already to reach your identified End User (group).</p> <p>Examples of such dissemination and transfer activities are: publications, events and networking, collaborative research / researcher mobility, consultancy / training courses, licensing, new business / spin-offs, etc</p> <p>Please include web addresses, reference material, project reports so further investigation can be carried out.</p>	<p>Please enter the submission date of this OUTPUT, in dd/mm/yyyy.</p>	<p>Any extra information which you deem relevant but is not included in other fields.</p>
Potential Impact ▼	Project Exploitation ▼	Submission Date ▼	Notes ▼

The information is provided initially by the KO owner, it is then reviewed and analysed by ERINN Innovation, who may return to the KO owner for further information needed to make well-informed decisions on transfer selection later in the process. Once validated by ERINN Innovation, the Impact Plans for each KO are sent to the IRAP, for assessment and identification of high-potential outputs.

4. Appendix – Impact Plan Definitions

<u>DEFINITIONS</u>	
Knowledge	Intellectual property rights and related know-how, information, data and other intellectual assets. Technical information including discoveries, concepts, methodologies, models, research, development and testing procedures, the results of experiments, tests and trials, manufacturing processes, materials, formulae, formulations, processes, research or experimental results, techniques and specifications, quality control data, analyses. Knowledge is not limited to scientists and is not limited to technology information. Knowledge differs from data or information in that new knowledge may be created from existing knowledge by extension of logic. <i>(Definition developed by AquaTT in the context of the MarineTT project (April 2012))</i>
OUTPUT	An "OUTPUT" for the purposes of this project is the term used to describe a unit of knowledge or learning generated by or through research activity . It is not limited to de-novo or pioneering discoveries but may also include new methodologies/processes, adaptations, insights, alternative applications of prior know-how/knowledge . <i>(Definition developed by AquaTT in the context of the COLUMBUS project)</i>
Knowledge Transfer	Knowledge transfer is the process of creating, organising, capturing/sharing/distributing knowledge to ensure its availability for future users. Knowledge transfer encompasses both commercial and non-commercial activities such as research collaborations, consultancy, licensing, spinoff/spinout creation, researcher mobility, and publications etc. Knowledge transfer aims to support mutually beneficial collaborations between universities, businesses and the public sector. <i>(Definition developed by AquaTT in the context of the MarineTT project (April 2012))</i>
Output Type(s)	<ul style="list-style-type: none"> * exploitable scientific result * scientific publication * report * book/review * RTD protocol/technical manual * guidelines/standards * training activity/learning module * software/modelling tools * product * prototype * services/tools * multimedia * data (if data, please specify where they are held in column T - Notes) * other (if other is chosen, please try to clarify in column T - Notes)

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Theme(S)	<ul style="list-style-type: none"> * feeding/nutrition * physiology * health / welfare * environmental interactions and impacts * genetics * breeding * aquaculture systems engineering * aquaculture technology supply * aquaculture service supply * processing * hatchery * production / farming * quality management * aqua-food market * others
EATiP thematic areas (TAs) and their goals (G)	<p>European Aquaculture Technology and Innovation Platform (EATiP) objectives, as defined in the thematic Strategic Research and Innovation Agenda (“The Vision”)</p> <p>TA1 - Product, Quality, Consumer Safety & Health G1: Maximise health benefits of products; G2: Ensure continuing safety of products; G3: Deliver high quality products - fully meeting consumer expectations; G4: Understand dynamics of European seafood markets</p> <p>TA2 - Technology & Systems G1: Ensure environmentally sustainable industry by applying new knowledge and technology innovations; G2: Meet demand for products in Europe by developing efficient technologies to support continued growth; G3: Ensure profitability of aquaculture industry by developing improved management systems and technology; G4: Ensure technology for ethical and healthy production of high quality products</p> <p>TA3 - Managing the Biological Lifecycle G1: Establish predictability and improve output and cost control at every production stage of the lifecycle; G2: Genetic improvement of productive, health and animal welfare traits; G3: Improve broodstock management methods and control of sex and reproduction in captivity; G4: Manage life cycle of carefully selected “new” species that have high economic importance</p> <p>TA4 - Sustainable Feed Production G1: Base formulation of Future Fish Feeds on solid knowledge of fish nutritional and feeding requirements, and expand the number of well characterized and sustainable raw materials which can be used; G2: Advanced novel feed technologies to produce cost effective feed with improved quality; G3: Understand and minimise non desired effects of alternative diets on fish health and welfare; G4: Adapt and utilize advanced methods to understand and model nutritional responses; G5: Resolve strategic research problems in fish nutrition</p> <p>TA5 - Integration with the Environment G1: Establish fundamental scientific knowledge on assimilation capacity of biogenic wastes from aquaculture to determine acceptable emission rates for benthic and pelagic ecosystems; G2: Establish technology to minimise emission of biogenic matter from aquaculture and to minimize the potential environmental influence of the actual emissions by means of environmental management and integrated multi-trophic aquaculture; G3: Understand the fate and cumulative effects of synthetic agents used in aquaculture and minimizing their impact on the environment; G4:</p>

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	<p>Establish more fundamental knowledge to understand the interactions between farmed and wild stocks, including wildlife (Interactions of farmed and wild stocks); G5: Develop or adapt tools and measures in support of appropriate environmental governance for aquaculture (Tools for environmental governance)</p> <p>TA6 - Knowledge Management G1: Manage knowledge efficiently and effectively within European Aquaculture sector; G2: Ensure availability and efficient use of aquaculture research infrastructures across all boundaries to benefit the industry; G3: Collect and collate evidence for informed communications on the benefits of the European aquaculture sector for Society and the Environment; G4: Foster and build the human capital of the European aquaculture sector</p> <p>TA7- Aquatic Animal Health and Welfare G1: Improve fish health and welfare by increasing the understanding of host pathogen interactions and to have access to effective vaccines and immunomodulators; G2: Application of epidemiological principles to minimise the threat of existing, emerging and exotic diseases; G3: Use and develop best practice to optimise efficacy of treatments and prevention methods; G4: Measure welfare/stress and understand its consequences if compromised in order to incorporate welfare as core components of production management</p> <p>TA8 - Socio-economics, Management & Governance G1: Promote effective governance - establishing a 'level playing field' for aquaculture within Europe G2 : Establish an enabling environment for innovation and growth to allow aquaculture to realise its full potential G3 : Understand better the social and economic dimensions of aquaculture at different scales</p>
<p>End User Types</p>	<ul style="list-style-type: none"> o Education & Training o Environmental Managers & Monitoring o Industry o Policy Makers / Decision Makers o Scientific Community o Civil Society o Other
<p>Technology readiness level TRL</p>	<ul style="list-style-type: none"> o TRL 1 – basic principles observed o TRL 2 – technology concept formulated o TRL 3 – experimental proof of concept o TRL 4 – technology validated in lab o TRL 5 – technology validated in relevant environment (industrially relevant environment in the case of key enabling technologies) o TRL 6 – technology demonstrated in relevant environment (industrially relevant environment in the case of key enabling technologies) o TRL 7 – system prototype demonstration in operational environment o TRL 8 – system complete and qualified o TRL 9 – actual system proven in operational environment (competitive manufacturing in the case of key enabling technologies; or in space)

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Impact	<p>Research Councils UK (RCUK) defines research impact as 'the demonstrable contribution that excellent research makes to society and the economy'.</p> <p>Research impact embraces all the diverse ways that research-related skills benefit individuals, organisations and nations.</p> <p>A key aspect of this definition of research impact is that impact must be demonstrable. It is not enough just to focus on activities and outputs that promote research impact, such as staging a conference or publishing a report. You must be able to provide evidence of research impact, for example, that it has been taken up and used by policymakers, and practitioners, has led to improvements in services or business.</p> <p>We aim to achieve research impact across all our activities. This can involve academic impact, economic and societal impact or both:</p>
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² Nature of deliverable (DELETE ACCORDINGLY): **R**: Report, **DEM**: Demonstration, pilot, prototype, plan design, **DEC**: Website, patent filing, market studies, press & media, videos, **Other**: Software, technical diagram, etc., **Ethics**: Ethics deliverable

