

Multiplier Events E1 Report of ORKON

Erasmus+ Project

Implementation of ECVET for Qualification
Design in Drinking Water Treatment Plants
and Sanitation for Pure Drinkable Water

“PURE-H₂O”



TABLE OF CONTENTS

MULTIPLIER EVENT E1	3
PARTICIPANTS OF THE COURSE:	3
NAME & PROFESSIONS LIST	3
METHODOLOGY OF THE MULTIPLIER EVENT:.....	5
RESULTS OF THE COURSE:.....	6
PURE-H2O MULTIPLIER EVENT 1 QUESTIONNAIRE.....	6
PURE-H2O MULTIPLIER EVENT CONTENT :.....	24
SOME PHOTOS BELONGING TO THE PARTICIPANTS OF THE MULTIPLIER EVENT:	59

MULTIPLIER EVENT E1

PARTICIPANTS OF THE COURSE:

ORKON organised Multiplier Event E1 by 27 participants ;

The meeting took place in Ankara by ORKON on 15-16 August 2016 by 27 participants. It took place after the Transnational Meeting in Amsterdam. Most of the products of the Project were ready so this meeting is organised as a workshop, a detailed introduction of the Project and also the explanations of the products are done. It was a training for the participants of the meeting on the drinking water treatment plant subject and a discussion session took place at the meeting and exchange of experiences, knowhow and knowledge are shared. PURE-H2O Project is discussed in detail and all the products are introduced thoroughly, technical aspects are introduced and how to design a drinking water treatment plant is given. A very successful workshop performed and it has been a good dissemination of the project. Participants were from the water sector, civil, environmental, electrical, mechanical, mining, geological engineers, architect, civil technicians, survey and mapping technicians, people from administration, tenders and managing departments.

NAME & PROFESSIONS LIST

1	Altan Dizdar	Engineer
2	Ertuğrul Dizdar	Engineer
3	Çağan Dizdar	Engineer
4	Cem Açikkol	Architect
5	Sibel Doğankaya	Engineer
6	Ekin Akkaya	Engineer
7	Filiz Sarıaltun	Administration
8	Mayis Kurt	Engineer

9	Seçil Kocaer	Administration
10	Rasih Kormalı	Engineer
11	Yaşar Yıldırım	Technician
12	Aysun Bahadır	Technician
13	Ömer Tekpınar	Engineer
14	Cihan Saltık	Engineer
15	Behzat Göllü	Engineer
16	Feray Yoloğlu	Engineer
17	Ayşe Betül Demir	Engineer
18	Kadir Bahadır	Engineer
19	Can Karaşahin	Engineer
20	Enes Çetin	Technician
21	Serkan Dizdar	Technician
22	Mehtap Ataşoğlu	Engineer
23	Burak Koçak	Engineer
24	Hacer Akarsu	Engineer
25	Muammer Sonkaya	Engineer
26	Filiz Güldürü	Technician
27	Emre Kaan Koca	Technician

METHODOLOGY OF THE MULTIPLIER EVENT:

The books in English and in Turkish are distributed to the participants on the first day and the introduction of the project and the subject is done and accordingly it is required from the participants to look into the book for the discussion on the second day. The introductory materials are also distributed and web-site is introduced and asked them to point out their questions about the drinking water treatment plants. Then the courses took place on the 15th – 16th of August 2016. The methodology used in the course and the topics discussed were:

- ☐ The importance of constructing the drinking water treatment plants and the most recent techniques of the system is discussed,
- ☐ The usage of the products of PURE-H₂O are shown and how to get the benefit from the project is explained,
- ☐ Sharing ideas on the most recent technology and scientific aspects took place,
- ☐ EQF (European Qualifications Framework) and ECVET principles are discussed in detail and usages of this system are shown and the benefits of the mobility of working all around Europe is explained,
- ☐ The professions' EQF's are shown to the participants and learning objectives of the training course are discussed,
- ☐ Training is given on the European Projects and the benefits are discussed and a short project preparation is shown,
- ☐ The economics of the systems are discussed and the differences between the existing systems are shown,
- ☐ The importance of sharing ideas and professions are explained by gathering at a European Project and the examples are shown,
- ☐ How to use e-learning modules are shown,
- ☐ Question and answer session took place.

A thorough introduction of the project PURE-H₂O with its products and training modules have been taught to the participants and it is seen that a very useful set of training materials have been prepared for the sake of water sector and for the drinking water treatment plant. Participants got interested with the content of the project and also with the idea of performing a European Union project.

Some participants found e-learning modules very attractive and very useful for the self-learning and advised us to give this course to water workers at certain periods,

We required from the participants to work on the given material, afterwards it is understood that we made a comprehensive and understandable project as, as far as we saw most of the participants understood what is aimed to be given in the project.

Below questionnaire is distributed to the participants, and it is asked from them to answer the questions.

RESULTS OF THE COURSE:

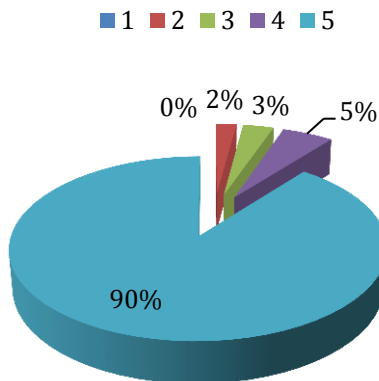
Evaluation questionnaire is distributed to the participants and following results are obtained from the participants :

PURE-H2O MULTIPLIER EVENT 1 QUESTIONNAIRE

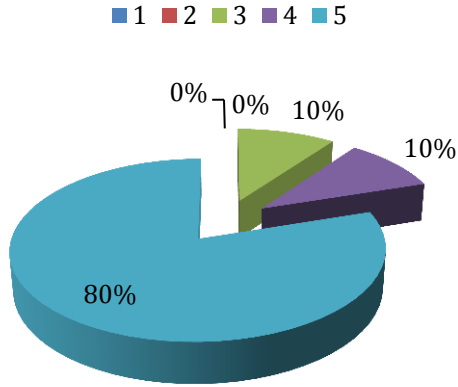
Evaluation scale:

1 – not at all satisfied/fully disagree; 2 – unsatisfied/disagree; 3 – partly satisfied/partly disagree; 4 – satisfied/agree; 5 – fully satisfied/fully agree

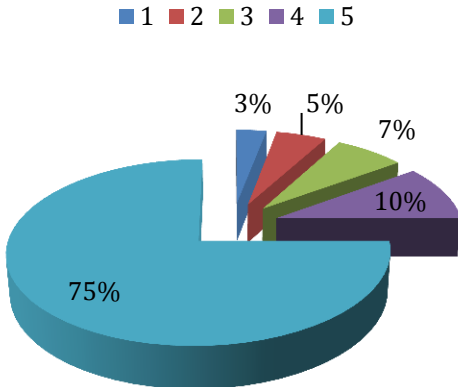
1. Organisation of the event



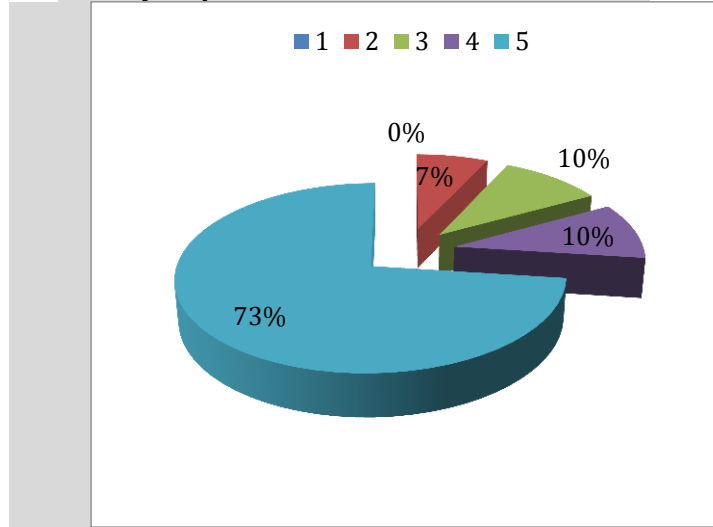
2. Venue



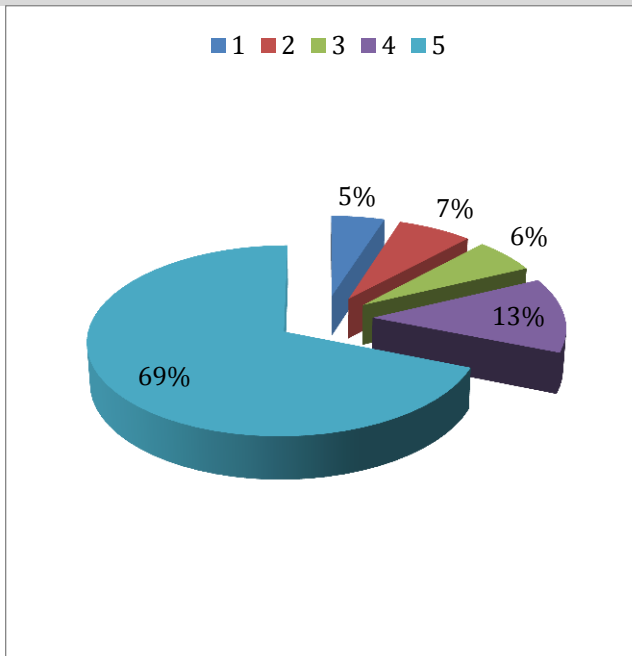
3. Quality of the material and products provided



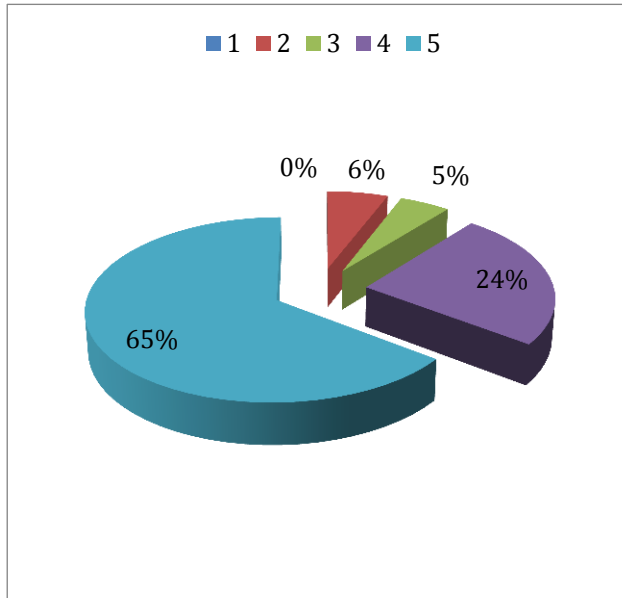
4. Quality of presentations and introductions



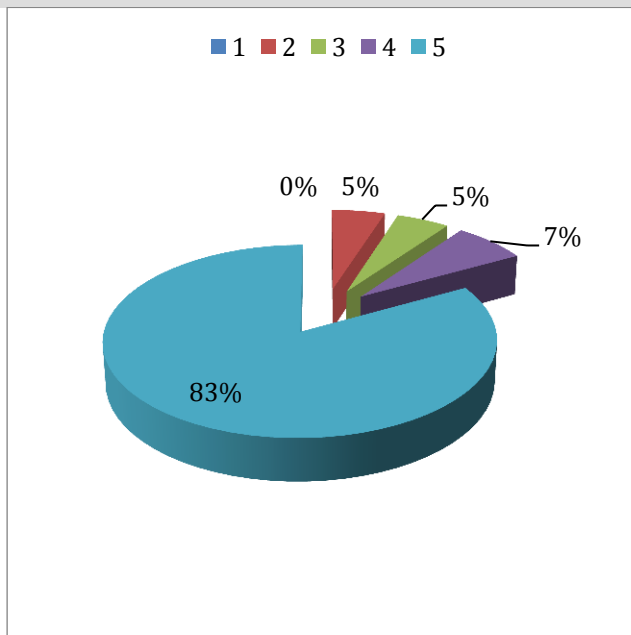
5. Usefulness of presentations to you



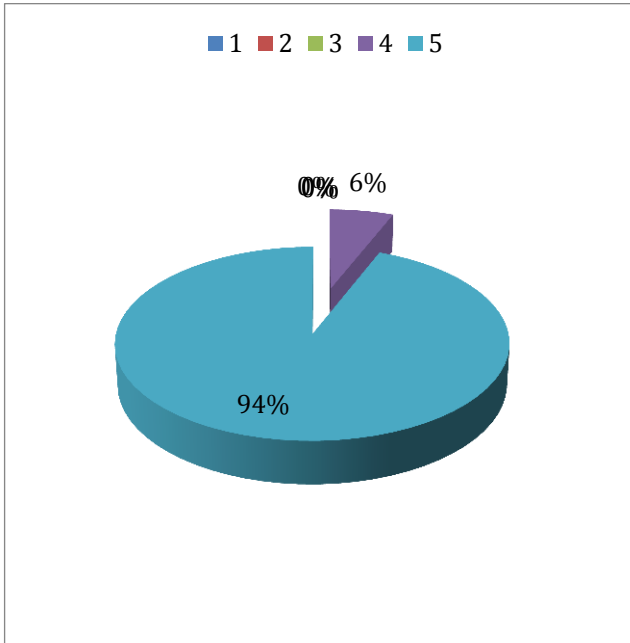
6. Clarity of answers and comprehensibility



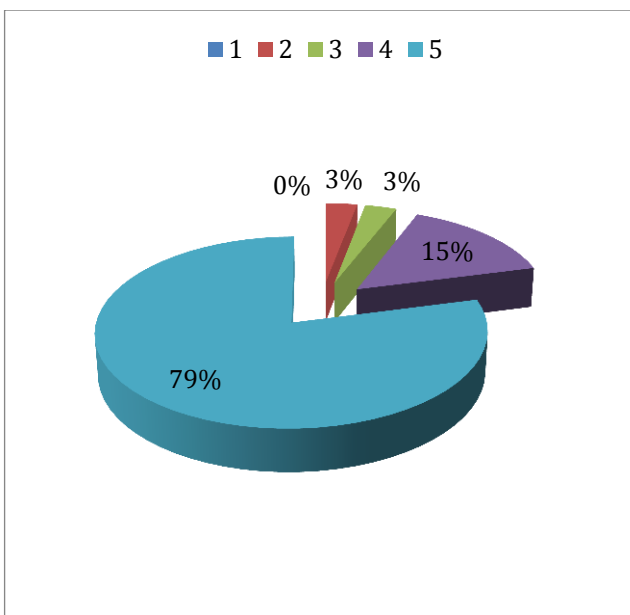
7. Quality of the discussions, questions and answers,



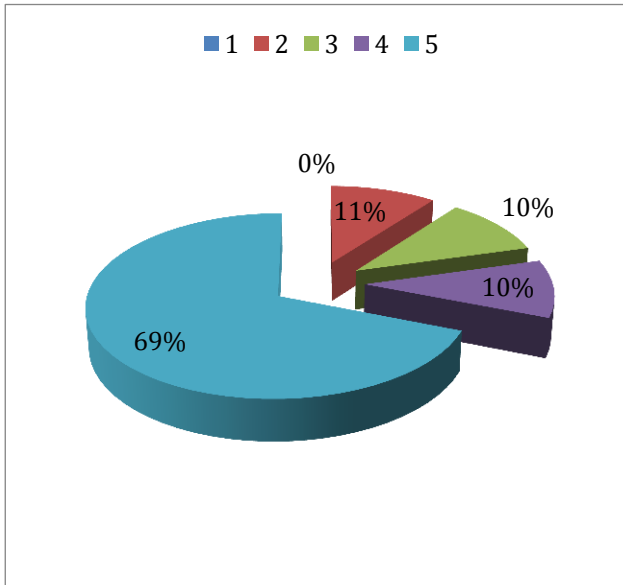
8. Dialogue between the participants



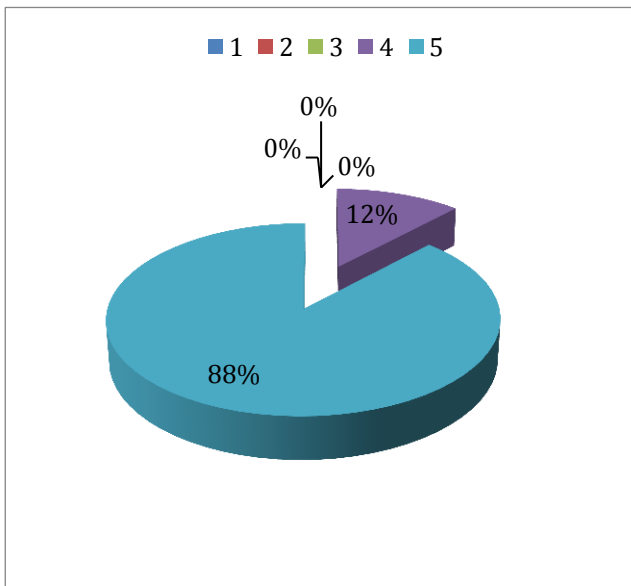
9. Competence areas are very well defined in PURE-H2O Project.



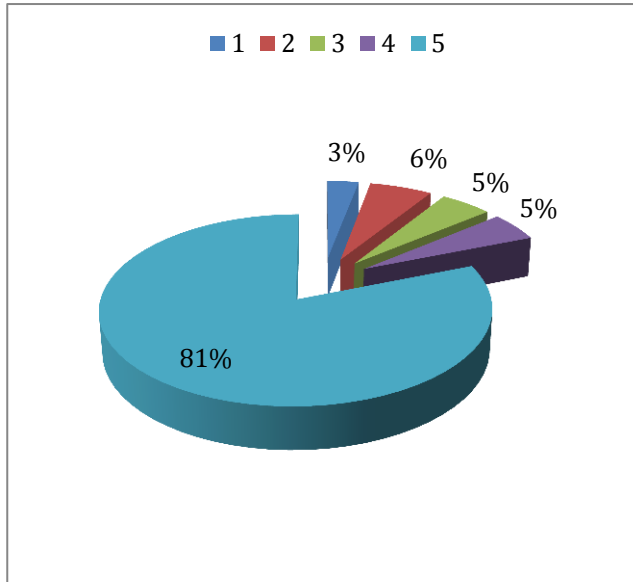
10. The steps of competence development are clearly described



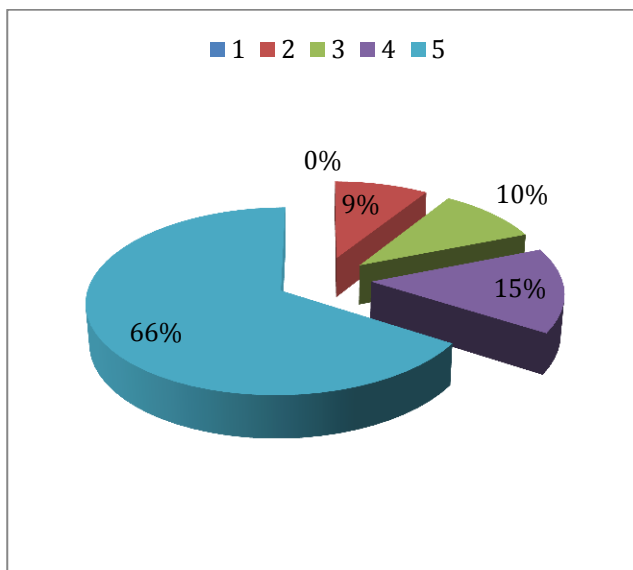
11. Competence areas are chosen suitable to PURE-H2O subject



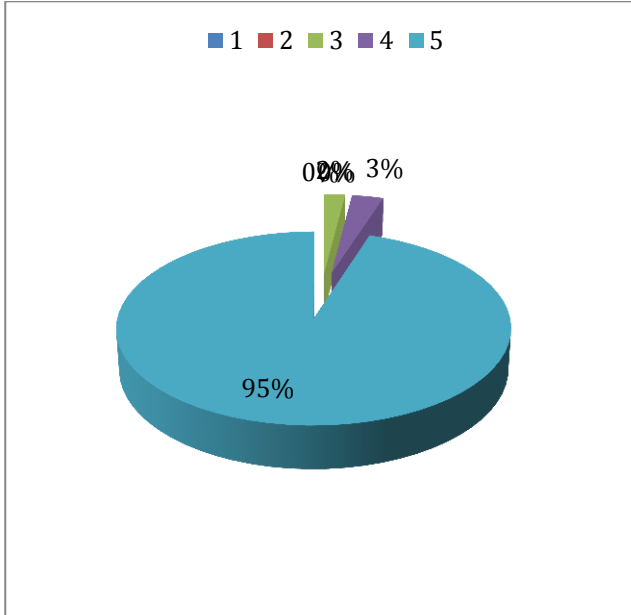
12. The scope of the course refers to my vocational interest.



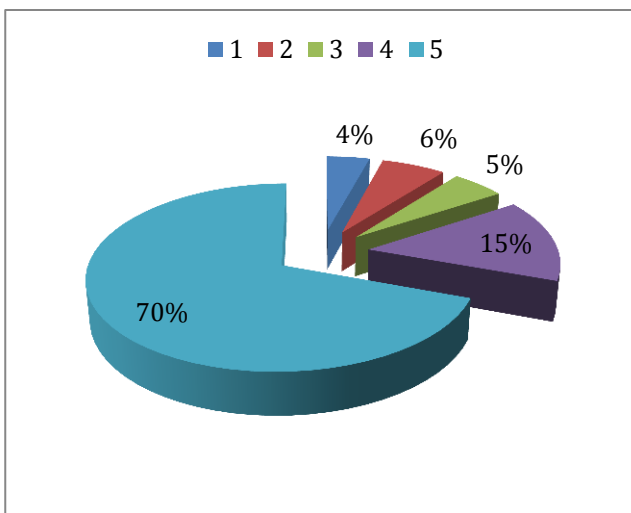
13. The exercises are clear and intuitive.



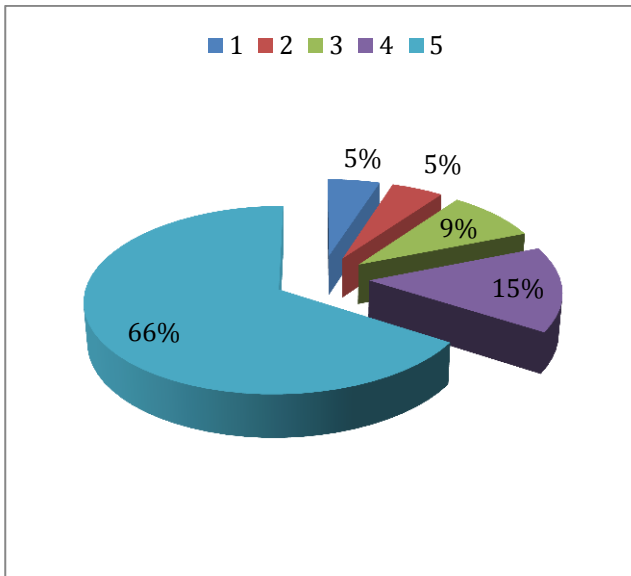
14. Photos and pictures in the book and web-site are well selected and relevant.



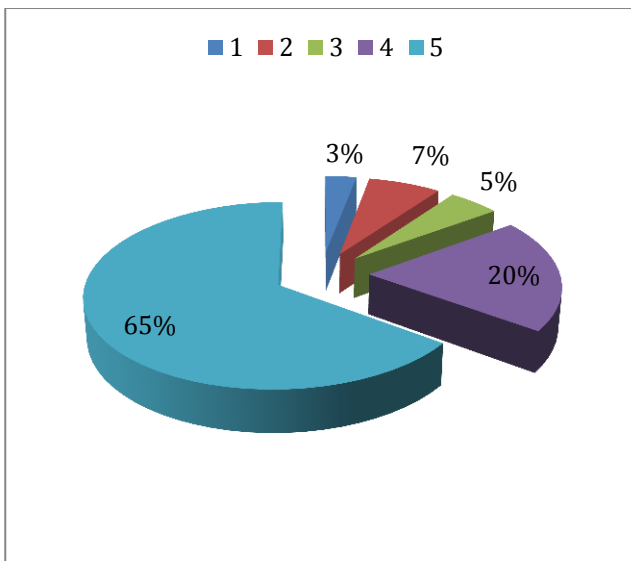
15. The outline of the project is user-friendly.



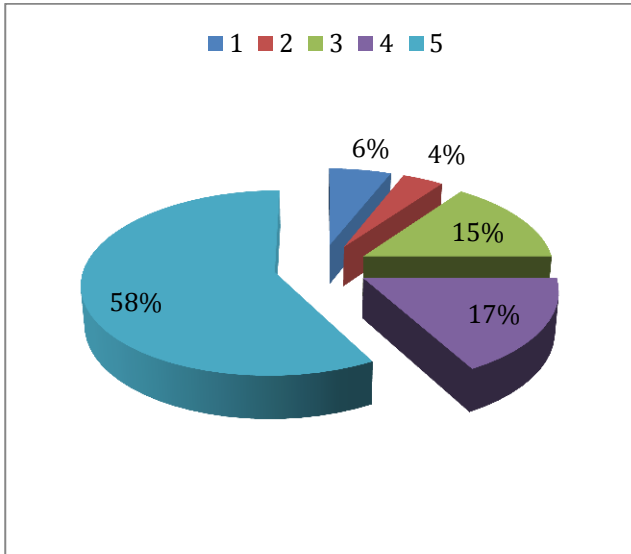
16. The content of the course is clear and understandable both for water trainers and trainees.



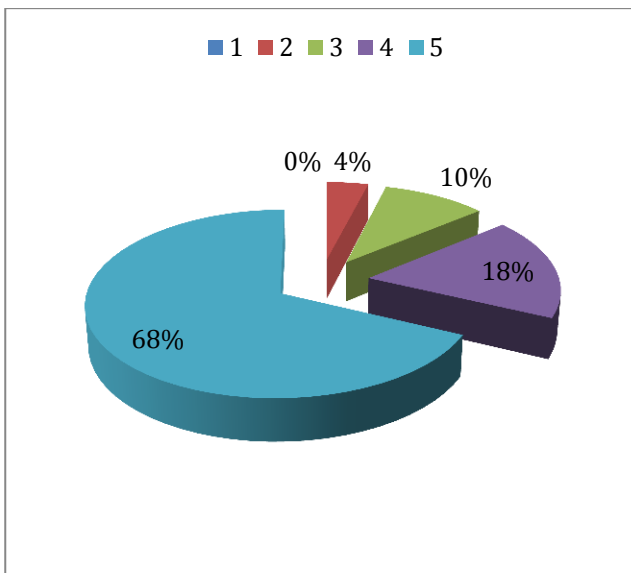
17. I am going to use the given knowledge in my practical work.



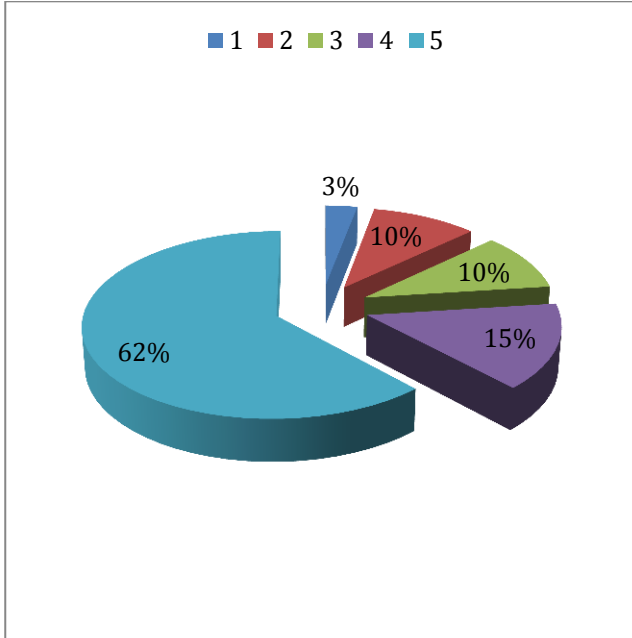
18. I understood what is EQF and ECVET and know the benefits of their principles.



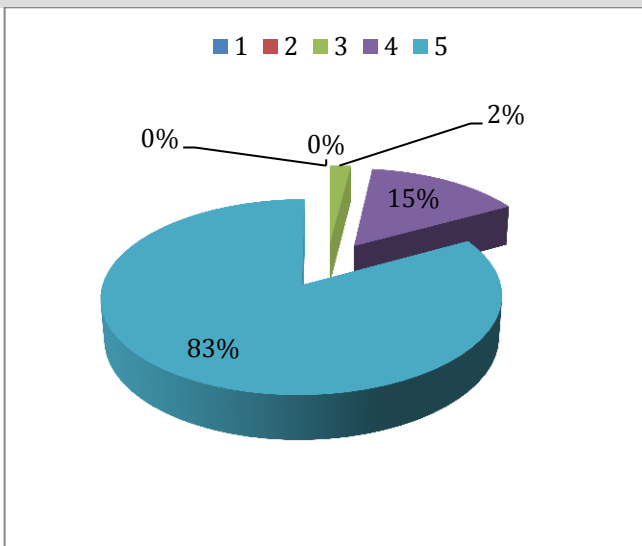
19. "Mobility is through EQF", now I know the meaning.



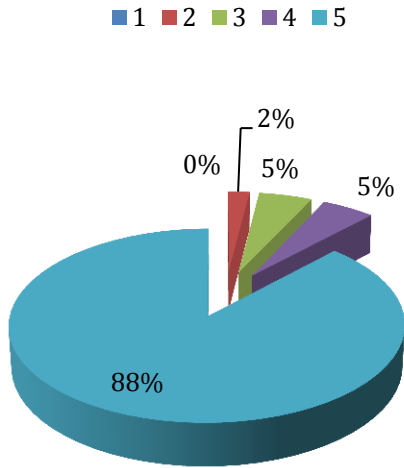
20. We design the projects in the way explained in PURE-H2O Project.



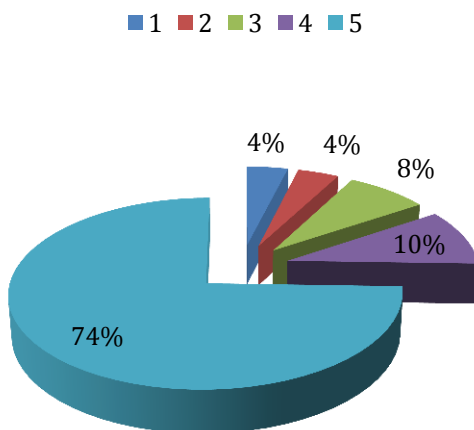
21. PURE-H2O Project shows necessary steps of competence development



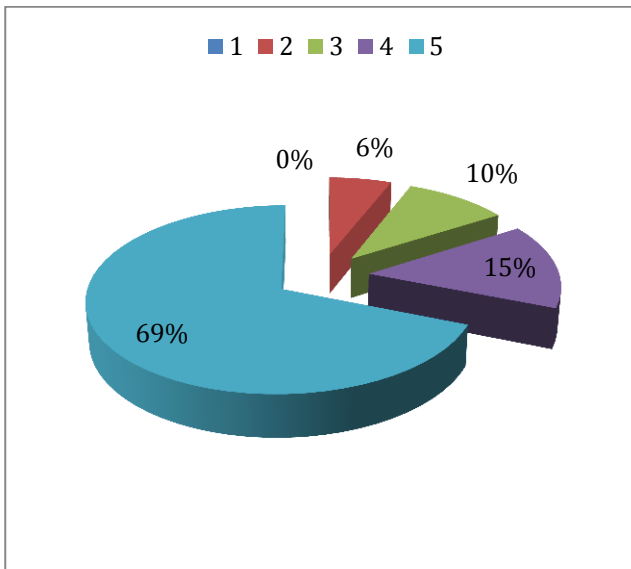
22. Overall, PURE-H2O project provides a satisfactory description of competences in water sector in my country



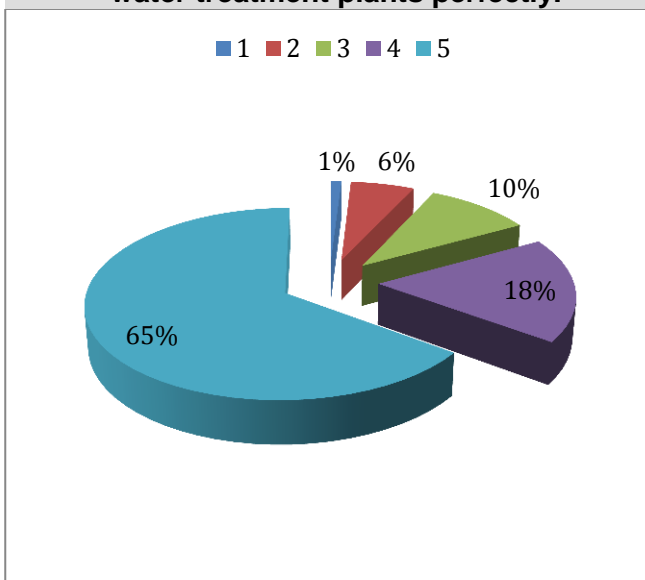
23. The Competences are not too complicated to understand



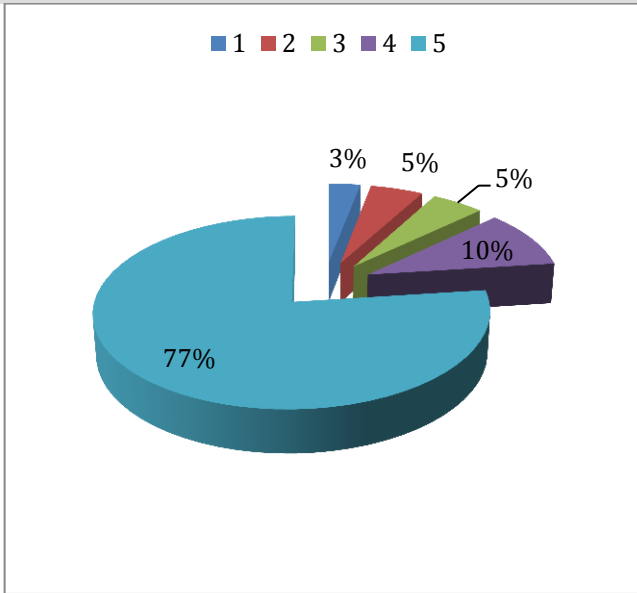
24. PURE-H2O Project helps me define which competences we already offer to our trainees and which ones we may decide to offer in the future.



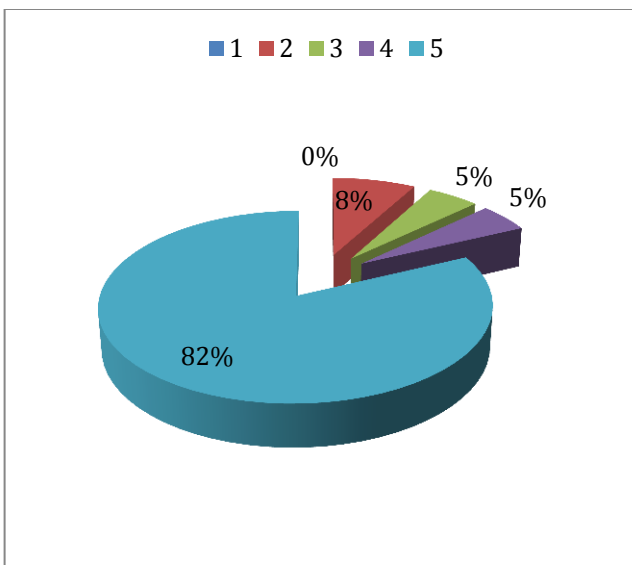
25. PURE-H2O Project is defining the information about the drinking water treatment plants perfectly.



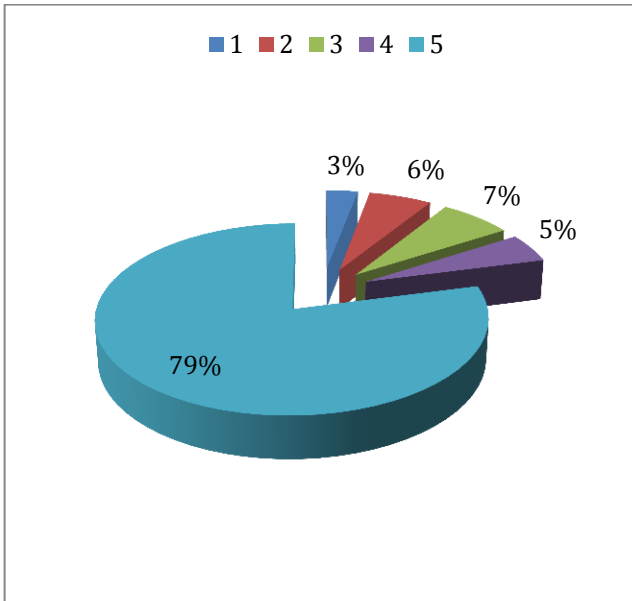
26. How do you estimate the training possibilities in the field of PURE-H2O project?



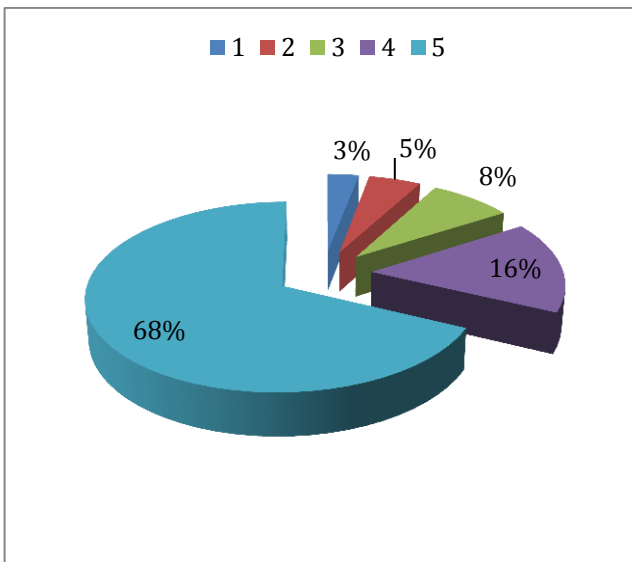
27. Are you satisfied with the provided Project documents (on-line and/or off-line)?



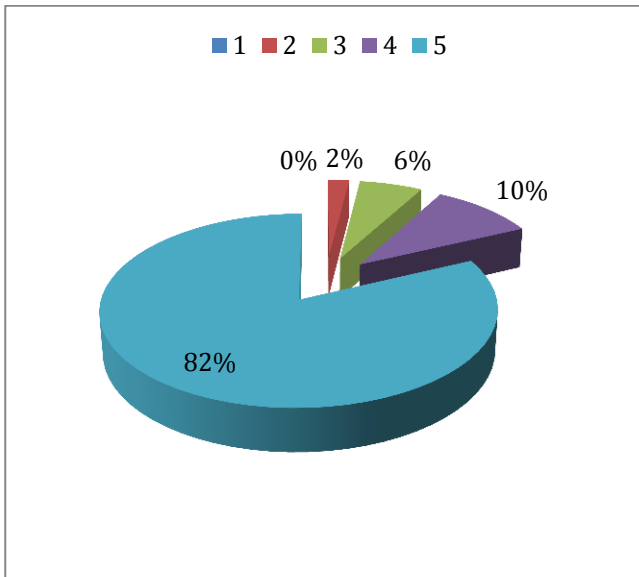
28. Do you think the PURE-H2O competence model could contribute to your job performance making it easier and more productive?



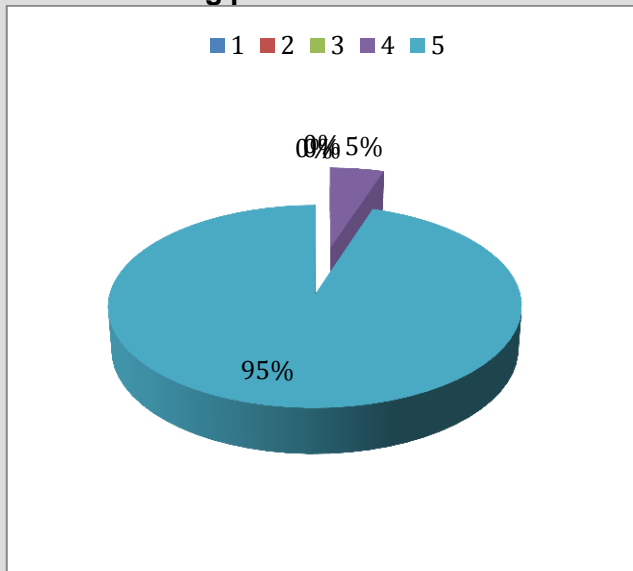
29. PURE-H2O Project helps me define which competences we already offer to our trainees and which ones we may decide to offer in the future.



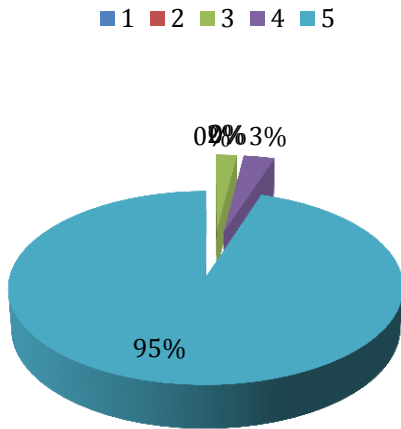
30. Web-site www.pure-h2o.org is designed very effectively and easy to find everything on it.



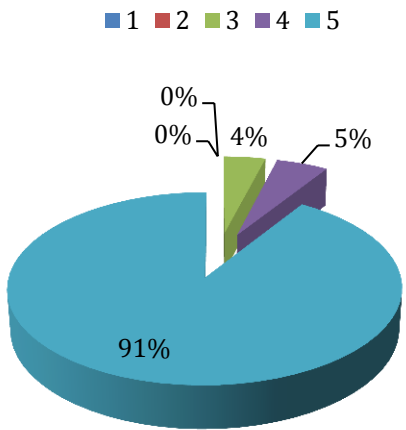
31. Do you need any pre-requisites (e.g. specific education, practical experience, etc.) to be able to use this training product?



32. I will advise PURE-H2O Project and its products to my colleagues to read and study on them !



33. On a scale of 1 (lowest) to 5 (highest), what is your overall rating of today's event?



34. What did you like the most about today's event?

Good project, good work, I liked the ambience at the meeting also,

These workshops must be repeated time to time, it is good for sharing the experiences, ideas,

I learned a lot of things, I have to work on them,

Next time, I would like to take part in EU projects also,

It was a well organised event, the place was good too,

Firstly, I thought it should be a time consuming meeting but afterwards I realized that I benefit a lot from the meeting,

The products are good and according to me they have to be distributed around to spread the knowledge also to other people.

I will advise PURE-H2O project to my colleagues, it will be good for them to know about this project.

35. What did you like the least about today's event?

The presentation was too long, I prefer to study on my own,

Irrelevant for me, I am not dealing with drinking water treatment plants,

There were too many questions asked, no need for that much of questions according to me.

PURE-H2O MULTIPLIER EVENT CONTENT :

INTRODUCTION OF PURE-H2O PROJECT IS PERFORMED FIRSTLY, THEN THE INTRODUCTION OF EU PROJECTS ARE DISCUSSED AFTERWARDS:

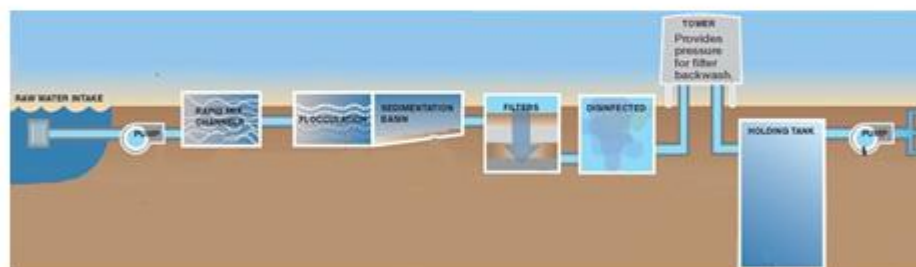
PURE-H2O BOOK

Chapter Outline

- 1) INTRODUCTION TO A DRINKING WATER TREATMENT PLANT
- 2) WATER CONTAMINATION RISKS
- 3) QUALITY STANDARDS FOR DRINKING WATER TREATMENT PLANTS
- 4) UNIT OPERATIONS FOR PRODUCING CLEAN DRINKING WATER
- 5) DISINFECTION
- 6) BASIC FACTS ABOUT WATER SUPPLY
- 7) SELECTION OF WATER TREATMENT PROCESSES
- 8) RESIDUAL MANAGEMENT
- 9) ONE COUNTRIES' RELATIONSHIP WITH WATER: DEPENDENCE AND INTERDEPENDENCE IN ACCESS TO (DRINKING) WATER IN THE NETHERLANDS
- 10) TECHNOLOGY-ENHANCED LEARNING & INNOVATIVE EDUCATION AND TRAINING FOR DRINKING WATER TREATMENT PLANTS
- 11) ECONOMICS OF DRINKING WATER
- 12) ECONOMIC AND FINANCIAL ASPECTS OF DRINKING WATER AND WATER TREATMENT PLANTS

Chapter 1

INTRODUCTION TO A DRINKING WATER TREATMENT PLANT



PURE-H₂O BOOK

Chapter 2

WATER CONTAMINATION RISKS



PURE-H₂O BOOK

Chapter 3

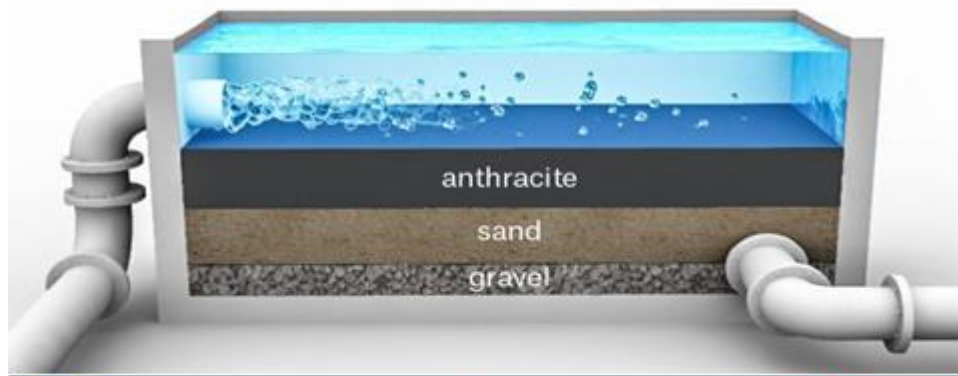
QUALITY STANDARDS FOR DRINKING
WATER TREATMENT PLANTS



PURE-H₂O BOOK

Chapter 4

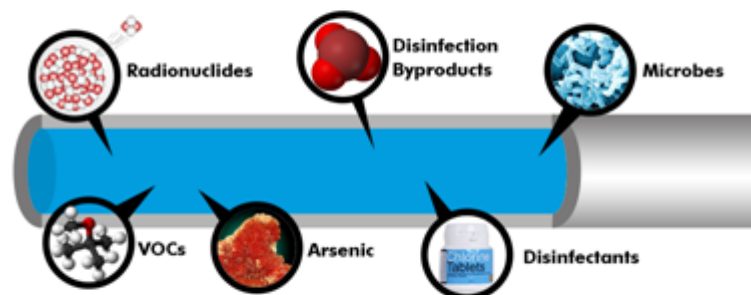
UNIT OPERATIONS FOR PRODUCING
CLEAN DRINKING WATER



PURE-H₂O BOOK

Chapter 5

DISINFECTION



PURE-H2O BOOK

Chapter 6

BASIC FACTS ABOUT WATER SUPPLY



PURE-H2O BOOK

Chapter 7

SELECTION OF WATER TREATMENT PROCESSES





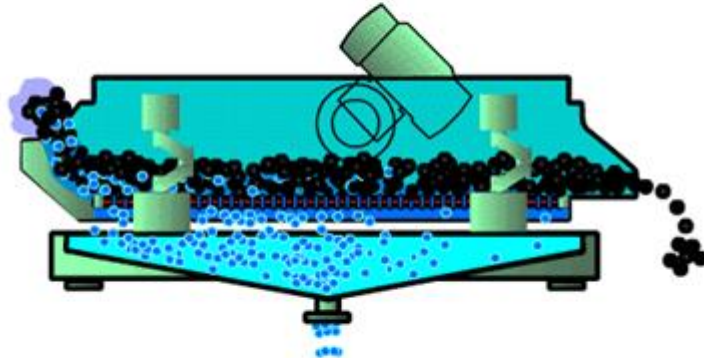
Erasmus+



ORKON

PURE-H2O BOOK

Chapter 8 RESIDUAL MANAGEMENT



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PURE-H2O BOOK

Chapter 9 ONE COUNTRIES' RELATIONSHIP WITH WATER: DEPENDENCE AND INTERDEPENDENCE IN ACCESS TO (DRINKING) WATER IN THE NETHERLANDS



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PURE-H2O BOOK

Chapter 10

TECHNOLOGY-ENHANCED LEARNING & INNOVATIVE EDUCATION AND TRAINING FOR DRINKING WATER TREATMENT PLANTS

coursera



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PURE-H2O BOOK

Chapter 11

ECONOMICS OF DRINKING WATER



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PURE-H2O BOOK

Chapter 12 ECONOMIC & FINANCIAL ASPECTS OF DRINKING WATER & WATER TREATMENT PLANTS



PURE-H2O TRANSLATIONS

Exterior of First Leaflet: English

Project Partners

ORKON INTERNATIONAL
ENGINEERING TRAINING
CONSULTING CO. INC.

ORKON

NIĞDE UNIVERSITY

GAZİ ÜNİVERSİTESİ

PLANART

Planart

R&D CENTER
"BIONTECH"

BOZKURT

The Open University of the Netherlands

**PURE
H2O**

PROJECT PROMOTER

ORKON INTERNATIONAL
ENGINEERING TRAINING
CONSULTING CO. INC.

CONTACT INFO

atum.dadami@orkon.info

ERASMUS PLUS
EU PROJECT
PURE-H2O

Implementation of ECET
for Qualification Design
in Drinking Water
Treatment Plants &
Sanitation for Pure

**PURE
H2O**

TÜRKİYE ULUSAL AJANSI
TURKISH NATIONAL AGENCY

PURE-H2O TRANSLATIONS

Interior of First Leaflet: English

Pure-H2O was developed to provide a tool that will promote transparent environmental planning & education in the development of sustainable & sound practices in the area of potable water & related treatment plants.



This project will contribute to the recognition & transparency of qualifications at the EU level & provide an innovative model for

ABOUT THE PURE-H2O Project

Thereby, the VET institutions will have the means necessary to enhance the skill set as required in the various disciplines & workplaces to workers within the potable water supply field.



The main dilemma that Pure-H2O intends to tackle is the lack of mutual recognition of qualification that is often impaired by national restrictions by applying EUROPASS, EQF & ECVET instruments. Being that there are several partners from various countries within & outside the EU, it should help

qualify & quantify what are the issues that seem to be the most in conflict with each other & provide a roadmap through these qualifying instruments that will apply not only to partner countries but EU-wide.



The application of these instruments will also assist Turkey in the Adaption of Acquis & carrying out the 9th Development Plan as part of Turkey accession process.



This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

PURE-H2O TRANSLATIONS

Exterior of First Leaflet: Turkish

Proje Ortakları

ORKON
NİĞDE ÜNİVERSİTESİ
GAZİ ÜNİVERSİTESİ
PLANART
R&D CENTER
"BIONTECH"
The Open University of the Netherlands



PURE H2O

PROJE YÜRÜTÜCÜSÜ
ORKON ULUSLARARASI MÜHÜR
EĞİTİM DANIŞMANLIĞI A.Ş.
İLETİŞİM
iletisim.danar@orkon.info

ERASMUS PLUS
AB PROJESİ
PURE-H2O

Saf içilebilir su için içme suyu arıtma tesisleri & iyileştirmede yeterlilik tasarımı için ECVET'in uygulanması



PURE-H2O TRANSLATIONS

Interior of First Leaflet: Turkish

Pure-H2O, içme suyu ve içmesuyu arıtma tesislerinin işletilmesi alanında sürdürülebilir uygulamaların geliştirilmesinde jeñtıl çevre planlama ve eğitimini destek edecek bir araç sağlamak üzere geliştirilmiştir.

Bu proje, içme suyu sektöründe AB seviyesinde niteliklerin geliştirilmesini sağlar.



sağlanmasına ve tanınmasına katkıda bulunacaktır. Ayrıca, bu sektördeki yetenekler için yenilikçi bir model oluşturacaktır.

PURE-H2O Projesi HAKKINDA

Böylece, Mesleki Eğitim ve Öğretim kurumları içme suyu temini alanında işlere çeñtıl disiplinler ve işyerlerinde gerektirdiği gibi beceri seti geliştirmek için gerekli araçlara sahip olacaktır.



Pure-H2O nun çözmediği ana sorun, ulusal uygulamalar yarından ilkönce yaratan niteliklerin (kalifikasyonların) kapsamlı olarak tanınmaması probleminin EUROFAS, ECF & ECVET gibi araçlarla üstesinden gelmektir. AB içinde ve dışında farklı ülkelerden çeñtıl ortakların bu projede yer alması en önemli

konuların tartışılması ve sadece ortak ülkelerde değil, AB genelinde geçerli olabilecek, bu EOF, ECVET gibi araçlarla yürütülecek yol haritasının belirlenmesi sağlanacaktır.



Bu araçların uygulanması, Türkiye'ye AB üyelik sürecinde, müktesebatın adaptasyonu ve 9. Gelişme Planının uygulanması konusunda da destek olacaktır.



Bu proje Avrupa Komisyonu tarafından desteklenmektedir. Bu belge sadece yarın amaçları için kullanılmaktadır. Avrupa Komisyonu hiçbir şekilde burada iktisaden sorumlu değildir.

PURE-H2O TRANSLATIONS

Exterior of Second Leaflet: English

PURE-H2O — Connections

Target groups:
The PURE-H2O qualification recognition model is targeted at teachers, trainers, learning facilitators, guidance professionals, school/institution managers and political decision makers.

Economic sectors:
Chemical and eco-engineering, environmental protection, biotechnology, healthcare, food industry need professionals with relevant and updated qualifications approved following the PURE-H2O path.

Institutional cooperation:
The PURE-H2O partnership between various institutions and national authorities contributes to the process of regulation, transparency & recognition of qualifications at the national & European level.

CONTACT PERSON
Altan Düzler — ALTAN.DUZLER@ORKONLARI

PURE ERASMUS PLUS EU PROJECT — PURE-H2O

Implementation of ECVET for Qualification Design in Drinking Water Treatment Plants & Sanitation for Pure Drinkable Water

PROJECT NUMBER: 2016-1-TR01-KA202-0-19118

ORYEN



This project's implementation gets the financial assistance from the European Commission through Erasmus Learning Programme. Content of this leaflet has been created by the project partners, and does not necessarily reflect the official position of the European Commission.

PURE-H2O TRANSLATIONS

Interior of Second Leaflet: English

PURE-H2O Predicted...

Outcomes:

- Analysis of the training needs
- e-Learning in PURE-H2O
- PURE-H2O learning outcomes-based blended learning curriculum
- PURE-H2O Skills Passport
- PURE-H2O analysis report of testing & evaluation
- Supporting sharing events
- PURE-H2O analysis report on dissemination and use
- Dissemination & use workshops

Workshop Plan

- 1. It
- 2. Objectives
- 3. Learning Outcomes
- 4. Goal
- 5. Duration
- 6. Materials
- 7. Evaluation
- 8. Materials
- 9. Supplies

Impacts:

- Economic Sector: Drinking water supply
 - EU policy
 - Financial loss
 - Environmental damage
 - Problem solving
 - The drinking water supply sector
 - The bottle necks to be addressed
- Educational transfer for knowledge-based economy
- PURE-H2O project uses the tools for qualifications recognition in the national and EU scale
 - European & National Qualifications Frameworks (EQF/NQF)
 - European Credit System for Vocational Education and Training (ECTS)
 - EUROPASS

PURE-H2O Benefits

Target groups benefit from:

- Intensive motivation to learn
- Implementation of national good practices for qualification assessment
- ECVET credit points
- e-Scheme for PURE-H2O Skills Passport
- PURE-H2O training online and offline
- A set of learning outcomes
- Learning pathways and short intensive courses
- Exemplary documents

Regional development benefits from:

- Standardized user-centered VET learning paths
- Qualifications descriptions in the field of PURE-H2O to be introduced into the educational and industrial sectors in Bulgaria, the Netherlands and Turkey
- Globally accessible PURE-H2O e-portal
- Tests and certificates offered to trainees from Bulgaria, the Netherlands and Turkey
- PURE-H2O national workshops for presentation of project outcomes
- International workshops
- Cluster activity with similar initiative for further application of the PureH2O model

PURE-H2O TRANSLATIONS

Interior View of Second Leaflet: Turkish

PURE-H2O Tahmin Edilen...

Çıktılar:

- Eğitim ihtiyaçlarının analizi
- PURE-H2O de e-öğrenme
- PURE-H2O harmanlanmış öğrenim temeline dayalı öğrenim çıktılar PURE-H2O Beceri Pasaportu
- PURE-H2O test ve değerlendirme analiz raporu
- Paylaşım etkinliklerinin desteklenmesi
- PURE-H2O yaygınlaştırma ve kullanım analiz raporu
- Yaygınlaştırma ve kullanım atölyeleri
- Kitapçık "PURE-H2O Projesi: Zorluklar ve Senaryolar"

Workshop Plan

- 1. It
- 2. Objectives
- 3. Learning Outcomes
- 4. Goal
- 5. Duration
- 6. Materials
- 7. Evaluation
- 8. Materials
- 9. Supplies

Etkiler:

- Ekonomik sektör: İçme suyu temini
 - AB Politikaları
 - Finansal kayıplar
 - Çevresel zararlar
 - Problemler çözme
 - İçme suyu temini sorunu
 - Büyük darboğazlar tanımlanacaktır
- Bilgi tabanlı ekonomi için eğitim transferi
- PURE-H2O projesi ulusal ve AB düzeyinde tanınmak için gerekli araçları kullanır
 - Avrupa ve Ulusal Yetenek Çerçevesi (EQF/NQF)
 - Mezaleli Eğitim ve Öğretim için Avrupa Kredi Sistemi (ECVET)
 - EUROPASS

PURE-H2O Yararlar

Hedef gruplara sağlayacağı yararlar:

- Yoğun öğrenme motivasyonu
- Uluslararası uygulamaları, yetenekli değerlendirilmesi için gerçekleştirilmesi
- ECVET kredi puanları
- PURE-H2O Beceri Pasaportu için e-Scheme
- PURE-H2O çevrimiçi ve çevrim dışı eğitim
- Öğrenim Çıktıları Seti
- Öğrenme yolları ve kısa yoğun kurslar
- Örnek dokümanlar

Bölgesel Gelişmeye Sağlayacağı Faydalar:

- Standardlaştırılmış kullanıcı merkezli VET öğrenme yolları
- Bulgaristan, Hollanda ve Türkiye'de PURE-H2O alanındaki niteliklerin, eğitim ve endüstri için tanımlanması
- Global olarak erişilebilir PURE-H2O e-portalı
- Bulgaristan, Hollanda ve Türkiye'deki test ve eğitim sertifikalarının örnek olması
- PURE-H2O Proje çıktılarının tanıtımı için ulusal çalışma atölyeleri
- Uluslararası çalışma atölyeleri
- PURE-H2O modelinin daha ileri uygulamaları için kümese atölyelerinde benzer girişimlerin başlaması

PURE-H2O TRANSLATIONS

Exterior of Second Leaflet: Turkish

PURE-H2O — Bağlantılar

- Hedef Gruplar**
PURE H2O yeteneklerinin tanınması modelinin hedef grubu, öğretmenler, eğiticiler, öğrenmeyi destekleyenler, okullu emekli yöneticiler ve karar vericilerdir.
- Ekonomik Sektörler**
Kimya ve ek-mühendislik, çevre koruma, biyoteknoloji, sağlık ve gıda endüstrisi alanlarında, PURE H2O projesinin geliştirdiği ve sonuçları nitelikli işçisine ihtiyaç duyulmaktadır.
- Kurumlararası İşbirliği**
Farklı kuruluşlar ve devlet kurumları arasındaki PURE H2O ortaklığı, düzenleme sürecine ve kalifikasyonların ulusal ve Avrupa seviyelerinde tanınmasına, geliştirilmesine katkıda bulunacaktır.

İletişim
Altan Dürda — ALTAN.DURDA@ORKON.INFO

ERASMUS PLUS AB PROJESİ — PURE-H2O

Saf içilebilir su için içme suyu arıtma tesisleri & iyileştirmede yeterlilik tasarımı için ECVE'in uygulanması

PROJE NO: 2014-1-TU01-4A02-011111



As proje Avrupa Komisyonu tarafından desteklenmektedir. Bu projeye sadece eğitimci adayları katılabilir. Avrupa Komisyonu hiçbir şekilde kurumsal birimlerden sorumlu değildir.

PURE-H2O TRANSLATIONS

Interior of Third Leaflet: English

PURE-H2O: Validation Tools

EQF: European Qualifications Framework

- Created to make individual qualifications: transparent—comparable—portable
- Facilitates validation of non-formal & informal learning
- Makes the European education systems more flexible
- Promotes, facilitates & assesses

European workers' continuing training

- Allows the transfer & use of qualifications among different countries as well as education

This tool will allow for the validation of PURE-H2O qualifications for course learners.

ECVET: European Credit system for Vocational Education & Training

- It is an EQF instrument to measure learning outcomes
- Can be used for various purposes such as to establish:
 - descriptors of qualifications frameworks
 - define qualifications
 - design
 - curricula, assessment, etc.
- Individual's learning outcomes are assessed & validated to transfer credits from one qualified system to another

This tool will allow PURE-H2O course learners to earn credit towards their continuing education.

PURE-H2O: Book

As the project is at the half-way point, the PURE-H2O book ORKON PUBLISHED HQ20" in the process of being re-written by all project partners.

The purpose of the book is to provide learners from various sectors such as biology, chemistry & engineering with the required information in order to increase their knowledge base.

This book is a contributing factor to the learning pathways (LPs), short intensive courses (SICs) designed to match EQF levels 5, 6 & 7 and weighted through ECVET see [www.pure-h2o.eu](#)

The book is divided into 12 chapters. The topics covered include:

- An introduction to the drinking water supply industry
- The risks associated to drinking water, such as waterborne diseases
- An analysis of the quality of water standards
- A step-by-step breakdown of the processes involved in producing clean drinking water
- Disinfection
- Details about water supply structures, including pipelines and catchments
- Different type of water treatment processes
- Residual management
- Training for engineers and technical staff using advanced learning techniques
- The economics of drinking water treatment plants and case studies

PURE-H2O TRANSLATIONS

Exterior of Third Leaflet: Turkish

PURE-H2O: Website

De PURE-H2O Website is momenteel onder constructie...
Op het moment bevatten de website het onderdeel van de homepage, met een beschrijving van het project.
Er is een onderdeel voor producten uit het project en zodra producten zijn geleverd zal dit onderdeel geupdate worden.
Het e-Book tabblad leidt naar het boek, hier komt een printbare versie van het boek waarvan de outline in het voorgaande onderdeel is beschreven.
Het Valoriseringsonderdeel voorziet in een link naar een diversiteit aan valorisatiematerialen zoals brochures, nieuwsbrieven, posters, etc. en een lijst van evenementen die zijn bijgewoond door de projectpartners, en hun inspanningen om informatie over de status en de uitkomsten van het PURE-H2O te verspreiden.
Het Partner tabblad, zoals de naam al suggereert, geeft een lijst van projectpartners en een korte outline van hun expertise.

CONTACT PERSOON
Altun Özdemir — ALTUN.OZDEMIR@ORKON.NL

ERASMUS PLUS EU PROJECT

Implementatie van ECVET voor Kwalificatie Design in Drinkwater Zuiveringsinstallaties & Sanitatie voor Zuiver Drinkwater

PROJECT NUMBER: 2014-1-TR01-KA202-013113

Producten

Validatie instrumenten | Website | Project Book

ECVET

Deze project wordt gefinancierd door de Europese Unie via de Europese Commissie als onderdeel van het Lifelong Learning Programme.
Het project wordt ook gefinancierd door de projectpartners en wordt niet mogelijk zonder de bijdragen van de Europese Commissie.

PURE-H2O TRANSLATIONS

Interior of Third Leaflet: Turkish

Validatieinstrumenten

EQF: European Qualifications Framework

- Georiënterd om de kwalificaties van individuen transparant—vergelijkbaar—over—draagbaar te maken
- Faciliteert de validatie van non-formeel & informeel leren
- Promoot, faciliteert & beoordeelt de doorlopende training van Europese werkers
- Makkt de transfer en het gebruik van kwalificaties tussen verschillende landen en onderwijssystemen mogelijk
- Dit instrument maakt de validatie van PURE-H2O kwalificaties voor deelnemers aan de cursussen mogelijk

ECVET: European Credit system for Vocational Education & Training

- Is een EQF instrument om leeruitkomsten mee vast te stellen
- Kan voor verschillende doeleinden gebruikt worden, bijvoorbeeld bij het vaststellen van:
 - Georiënteerd van kwalificatiedata
 - Het definiëren van kwalificaties
 - Design
 - Cursus, beoordeling, etc.
- De leeruitkomsten van individuen worden vastgesteld en geïdentificeerd om studiepunten mee te kunnen nemen van het ene kwalificatiesysteem naar het andere

De PURE-H2O cursusedeelnemers kunnen met dit instrument studiepunten verkrijgen die overgaan in hun voortgezet onderwijs.

Boek

Nu het project aangeland is op de helft van zijn duur wordt het PURE-H2O boek "TÜRKİYE PURIFIED H2O" geschreven door de projectpartners.

Het doel van dit boek is de deelnemers, die afkomstig zijn uit verschillende sectoren zoals de biologie, scheikunde, engineering, de benodigde informatie te verschaffen om hun kennisbasis uit te breiden.

Dit boek draagt bij aan de "learning pathways (LPs)", korte, intensieve cursussen (SCs) ontwikkeld om over te komen met EQF levels 5, 6 & 7 en gewogen aan de hand van ECVET (zie pagina 10).

Het boek is opgedeeld in 12 hoofdstukken. De onderwerpen die aan bod komen:

- Een introductie in de drinkwatervoorzieningsindustrie
- De risico's gelinkt aan drinkwater, zoals watergebonden ziektes
- Een analyse van de kwaliteit van waterstandaarden
- Een stap-voor-stap beschrijving van de processen van de schone drinkwaterproductie
- Desinfectie
- Details over watervoorzieningsstructuren, zoals pijplijnen en opvanggebieden
- Verschuivende processen van water treatment
- Residu management
- Training door middel van geavanceerde leermethodes
- De economische kant van de drinkwaterleveringsindustrie en de water audit



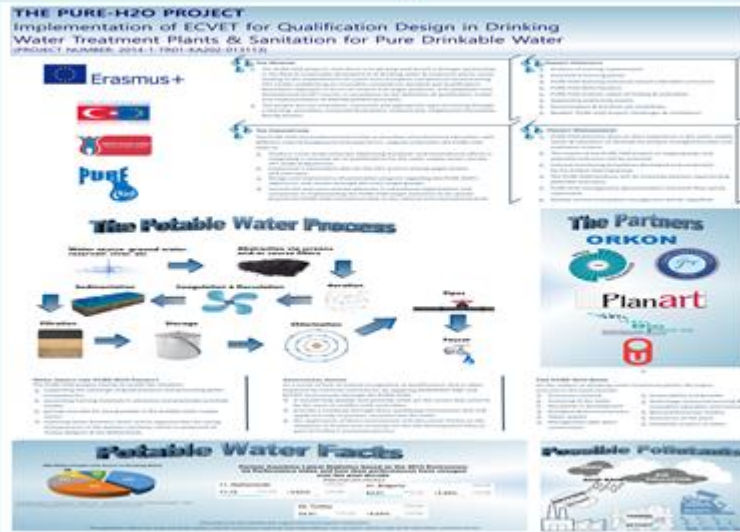
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PURE-H2O TRANSLATIONS

Poster: English



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PURE-H2O TRANSLATIONS

Poster: Turkish



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PURE-H2O PROJECT ACTIVITIES

Project Activities: Intellectual Outputs

IO#	Output Title	Leading Organization
#1	Survey and Analysis Report on Drinking Water Supply Sector VET Requirements	ORKON
#2	PURE-H2O e-learning Portal	BIOINTECH
#3	Learning Outcomes Based Blended Learning Curriculum	BIOINTECH
#4	PURE-H2O Skills Passport	GAZI UNIVERSITY
#5	Analysis Report of Testing & Evaluation	OPEN UNIVERSITY OF THE NETHERLANDS
#6	Analysis Report on Dissemination & Use	ORKON
#7	Booklet "Pure H2O Project: Challenges & Limitations"	PLANART



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PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 1

Survey & Analysis Report:
Drinking Water Supply Sector VET Requirements
COORDINATOR: ORKON



National Reports will be prepared for Bulgaria (BIOINTECH), the Netherlands (OUNL) & Turkey (PLANART)

TOC of the National Reports:

- ❖ Introduction of water systems
- ❖ Background and needs analysis
- ❖ Ways of purification of water in the country
 - ❖ Water treatment plants
 - ❖ EU and national legislations
- ❖ Professions and technicians working in the sector
- ❖ Specification of target groups; end potential users of the project, & partner countries
 - ❖ VET Requirements in the sector
- ❖ Analysis of learning outcomes, EQF levels



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PURE-H2O INTELLECTUAL OUTPUTS



INTELLECTUAL OUTPUT 2

PURE-H2O e-Learning Portal

COORDINATOR: BIOINTECH



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BIOINTECH



PURE-H2O INTELLECTUAL OUTPUTS

PURE-H2O e-Learning Portal

- ☐ This result includes design, set up and functioning of PURE-H2O e-based system for project implementation.
- ☐ PURE-H2O qualifications e-platform providing a frame for establishment of an algorithm for competence development in Drinking water supply sector;
- ☐ Set up of descriptive table for certification units comprising the following parts: knowledge, skills, wider competence.
- ☐ The new type of b-learning structure will be based on ECVET crediting plan as well as arranged in learning pathways corresponding to different qualification levels (5, 6, 7) of EQF system.



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BIOINTECH





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PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 3

Learning Outcomes-Based Blended Learning Curriculum

COORDINATOR: BIOINTECH



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BIOINTECH



PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 3

Learning Outcomes-Based Blended Learning Curriculum

COORDINATOR: BIOINTECH

- ❑ The result comprises creation of blended learning program in water supply sector, comprising 12 courses concerning characteristic, operation, management and economics of Drinking Water Treatment Plants.
- ❑ The built comprehensive learning outcome based units are designed to give detailed view of knowledge, skills and wider competence required for the target groups. A certification process based on ECVET allocation will be set up.
- ❑ The knowledge will be available as Learning Pathways (LPs) and Short Intensive Courses (SICs) designed to match EQF levels 5, 6 and 7, and weighed through ECVET.
- ❑ The qualification description will be made in accordance to ISCO/ESCO system.



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BIOINTECH





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ORKON

PURE-H2O INTELLECTUAL OUTPUTS



INTELLECTUAL OUTPUT 4

PURE-H2O Skills Passport

COORDINATOR: GAZI UNIVERSITY



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GAZI UNIVERSITY



PURE-H2O INTELLECTUAL OUTPUTS

PURE-H2O Skills Passport



This result represents a general frame for gathering of documents certifying completed training and acquired competence/qualification in water supply sector. It will facilitate the mobility process and comprises the following:

- ☐ Currently existing Europass documents (e.g., CV, Certificate supplements, Diploma supplements, Europass mobility certificate, EU language certificate)
- ☐ Work experiences or traineeships certificates
- ☐ Non-formal education and training certificates (such as in-company training)



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PURE-H2O INTELLECTUAL OUTPUTS



PURE-H2O Skills Passport

- ☐ Informal learning certificates (e.g., from job experiences, leisure activities or volunteer work)
- ☐ All other relevant internationally recognized certificates

The system frame will be set up following the established common for the project criteria and procedures, and standard quality indicators.



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GAZI UNIVERSITY



PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 4

Analysis Report of Testing & Evaluation

COORDINATOR: OPEN UNIVERSITY OF NETHERLANDS



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OPEN UNIVERSITY OF NETHERLANDS





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PURE-H2O INTELLECTUAL OUTPUTS

Analysis Report of Testing & Evaluation

The evaluation of project results/outcomes will be conducted through testing/evaluation and tuning process. Evaluation & testing reports will be delivered which will include:

- ☐ Measures foreseen for the final tuning of the planned outcomes
- ☐ Evaluation Reports of meetings and activities-intellectual outputs
 - ☐ 4 meetings evaluation reports
- ☐ Testing reports of the multiplier events and intellectual outputs
 - ☐ 4 evaluation reports for each 6 months of the project
- ☐ Preparation of questionnaires for E1 (evaluation multiplier event) and E2 (workshop multiplier event)



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OPEN UNIVERSITY OF NETHERLANDS



PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 6

Analysis Report on Dissemination and Use
COORDINATOR: ORKON + GAZI UNIVERSITY



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PURE-H2O INTELLECTUAL OUTPUTS

Analysis Report on Dissemination and Use

- ☐ Dissemination activities by each partner is required
- ☐ The partners will report their dissemination activities after their dissemination events
- ☐ Promotional materials are produced, either the English versions or the translated ones will be used for dissemination purposes



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PURE-H2O INTELLECTUAL OUTPUTS

INTELLECTUAL OUTPUT 7

Booklet "PURE-H2O Project: Challenges & Limitations"

COORDINATOR: PLANART



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PLANART



PURE-H2O INTELLECTUAL OUTPUTS



BOOKLET

“PURE-H2O Project: Challenges & Limitations”

- ☐ The aim of this output is to evaluate the achievements compared to the project objectives and seek for successes and lessons learned of the PURE-H2O project.
- ☐ Assess the structure and level of VET education in the Drinking water supply sector
- ☐ Conduct document analysis on project activities and its quarterly reports and policy and legal documents related with strengthening the VET in the area

EUROPEAN UNION PROJECTS PURE-H2O

- ☐ Erasmus + Project
- ☐ Subject: “Implementation of ECVET for Qualification Design in Drinking Water Treatment Plants and Sanitation for Pure Drinkable Water”
- ☐ Partnership: Turkey, Bulgaria, Germany
- ☐ www.pure-h2o.org





ECO-MATRIX

- LLP-LdV Transfer of Innovation Project
- Subject: “Vocational Qualification Transfer System in Ecology”
- Partnership: Turkey, Bulgaria, Austria, Greece



EC-AQUA

- LLP-LdV Transfer of Innovation Project
- Subject: “Implementation of ECVET for qualification design in sanitation and water loss management
- Transfer of PROWAT Project coordinated by ERBIL
- www.pro-wat.com
- Partnership: Bulgaria, Turkey, France



SHANIME

- LLP-LdV Transfer of Innovation Project
- Subject: “Preventing Accidents in Construction – Health and Safety Multimedia Animated Learning”
- Partnership: Turkey, Poland, United Kingdom, Portugal



EARTHQUAKE

- LLP-LdV Transfer of Innovation Project
- Subject: “VET in Rapid Earthquake Damage Assessments of Buildings to Avoid the Demolishing”
- Partnership: Turkey, Italy, Austria, Greece



CARE-WASTE

- LLP-LdV Transfer of Innovation Project
- Subject: “Competence based e-learning in general and health care waste management for new skills development
- Transfer of WASTE-TRAIN Project coordinated by ERBIL
- www.waste-train.com
- Partnership: Greece, Bulgaria, Turkey, Norway



• The aim of Erasmus+ programme is to promote:

- The innovation,
- European dimension,
- Transferability,
- Quality with analysing and solving problems for the vocational training systems.
- The adaptation of professional innovations in life-long learning training.



Advantages of a EUROPEAN UNION Project

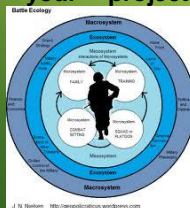
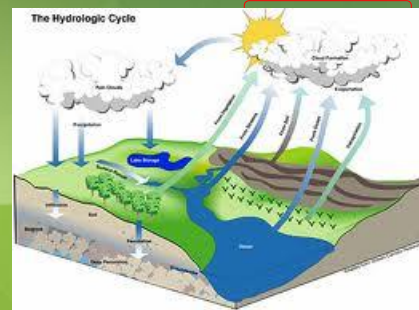
- You are working with different countries and cultures..
- This means that you and your organisation are aware about different cultures and also the European countries are getting knowledge about our culture..
- English language is becoming a more common language in your organisation.



- You are getting more practical with technical engineering glossary and design criterias in a project.

Advantages of a EUROPEAN UNION Project

- You see the existing systems and management in other European countries and in this way you have the chance to make a comparison of yourself with them..
- You become more aware of what is right and what is wrong...
- You, your partners, your country, your partners' countries, your project are getting very well-known in Europe and suddenly you might be called from a European organisation to introduce your project in their country..



- You are used to be innovative in all your other works and this brings development & technique to your works..



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INTRODUCTION OF PURE-H2O PROJECT

PROJECT PURE-H2O

Implementation of ECVET for Qualification Design in Drinking Water Treatment Plants and Sanitation for Pure Drinkable Water



ORKON



Planart



PURE-H2O ERASMUS+ KA2 STRATEGIC PARTNERSHIPS PROJECT

- ☐ Name: "Implementation of ECVET for Qualification Design in Drinking Water Treatment Plants and Sanitation for Pure Drinkable Water"
- ☐ Partnership: Turkey, Bulgaria, Germany
- ☐ www.pure-h2o.org

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PURE-H2O

PURE-H2O was developed to provide a tool that will promote:

- transparent environmental planning & education
 - in the development of sustainable & sound practices
 - in the area of potable water & related treatment plants

**ORKON**

PURE-H2O

This project will contribute to:

- the recognition & transparency of qualifications at the EU level
- provide an innovative model for competencies for the potable water sector

**ORKON**



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PURE-H2O

Thereby, the VET institutions will have the means necessary to:

- enhance the skill set as required in the various disciplines
- workplaces to workers within the potable water supply field



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PURE-H2O

The main target groups are teachers, trainers, learning facilitators, guidance professionals, school/institution managers and political decision makers.



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The Need for Drinking Water Treatment Plants



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The Need for Drinking Water Treatment Plants

Removal of Harmful Substances

- Substances removed include suspended solids, bacteria, algae, viruses, fungi, minerals such as iron, manganese and sulfur, and other chemical pollutants such as fertilizers



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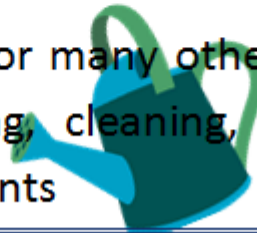
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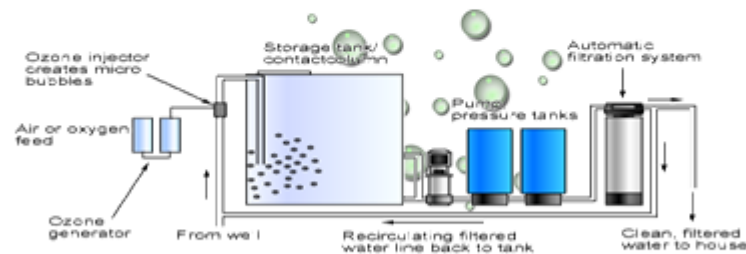
The Need for Drinking Water Treatment Plants

Ensuring Safe Drinking Water

- High quality, safe and sufficient drinking water is essential for our daily life, for drinking and food preparation
- We also use it for many other purposes, such as washing, cleaning, hygiene or watering our plants



The Evaluation of Water Treatment Technology





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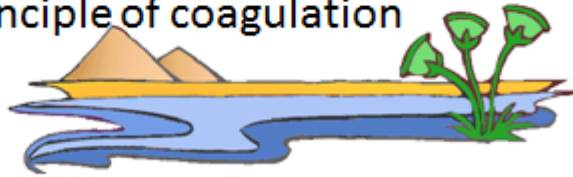


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Evolution of Water Treatment Technology

History of Drinking Water Treatment

- Greek and India writings recommended water treatment methods dating back to 2000 B.C.
- 1500 B.C., the Egyptians first discovered the principle of coagulation



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EUROPEAN DIRECTIVES & LEGISLATIONS



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Open
to innovation
for health



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European Directives and Legislations

The Directive Overview

- The Drinking Water Directive

(Council Directive 98/83/EC)

focuses on the
quality of water
intended for human consumption



- Its objective is to protect human health from any water contamination



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European Directives and Legislations

The Drinking Water Directive Applies to:

- Drinking water from tankers
- Drinking water in bottles or containers
- Water used in the food-processing industry, unless national authorities are satisfied regarding the quality of the water



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European Directives and Legislations

Water Supply

- Drinking water supply in the EU is organised by supply zones
- The Directive makes a distinction between large and small supplies
- Water sources vary considerably between Member States (MS)

European Directives and Legislations

Drinking Water Quality

- The Drinking Water Directive sets out minimum water quality requirements
- For each of the parameters, the Directive sets maximum concentration values
- The Directive requires to do regular monitoring of the quality of water

Analysis Report on Dissemination and Use

FACEBOOK OF THE PROJECT ERASMUS PLUS TR



*SOME PHOTOS BELONGING TO THE PARTICIPANTS OF
THE MULTIPLIER EVENT:*











