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Meeting Report
Deliverable D.6 – WP1

Less-Water Bev.Tech
Contract ECO/13/630314

Reporting Date
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Project coordinator: **A DUE DI SQUERI DONATO & C. S.p.A.**

Project website: www.lesswaterbevtech.com

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Description of the Deliverable n. 6 of Work Package 1.

The Deliverable D.6 of Work Package 1 (WP1), included in the Annex I of the Grant Agreement for the Project Less-Water Bev. Tech (ECO/13/630314), regards the "Project coordination meeting #5". The meeting was held on March 10th 2016, at A DUE S.p.A. premises in Riccò di Fornovo Taro (PR) - Italy, as scheduled during the previous meeting.

Meeting Participants

- Eng. Simone Squeri, A DUE S.p.A., CEO;
- Eng. Alberto Dilda, A DUE S.p.A., COO and R&D director;
- Eng. Guido Marossa, A DUE S.p.A., project engineer;
- Eng. Marco Iasoni, A DUE S.p.A., project engineer;
- Eng. David Delmonte, A DUE S.p.A., Automation engineering Dept. Director;
- Eng. Gian Paolo Pescini, A DUE S.p.A., Mechanical engineering Dept. Director;
- Mr. Paolo Caselli, A DUE S.p.A., project designer automation;
- Mr. Guatelli Claudio, A DUE S.p.A., customer care manager;
- Dr. Micaela Guerzoni, A DUE S.p.A., subcontractor;
- Eng. Maurizio Violi, A DUE S.p.A., subcontractor;
- Dr.. Federico Cappa, A DUE S.p.A., in-house consultant;
- Mr. Craig Clayton, CVAR Ltd, CEO;
- Eng. Marco Bortolini, UNIBO, senior researcher.

Meeting Agenda

The points in the agenda were the following:

1. General overview on project implementation (ADUE);
2. Definition of the engineering activities and executive design to perform in the next months. Discussion of the client's needs in the pilot plant lay-out and planning of test activities (ADUE, UNIBO, CVAR, Dr.ssa Guerzoni Micaela and Ing. Violi Maurizio as subcontractors);
3. Definition of Final Business plan for EU market (ADUE, UNIBO);
4. Schedule of the next activities to be implemented and sharing the responsibilities among the partner (ALL);
5. Status of reporting and identification of the next deadlines (ADUE);
6. Schedule of the next meetings (ALL).

1. General overview on project implementation

The project was carried out by partners according to the scheduled timetable, without any problem in terms of deviation to the original Gantt. Each of the scheduled task and deliverable has been timely produced by partners according to the responsibility set in the Annex I of the Grant Agreement.

The partners are fully committed in the project activities, which foresee to move on from the design phase to the engineering, integration and assembly of the new water treatment and waste recovery system, with important improvements decided on the prototype.

The design of the pilot plant can be then considered concluded and no deviations, problems or corrective actions have emerged so far. There might be some corrective actions at the end of the testing phase that might led to a slight revision of initial executive designs.

The following step is to finalise the acquisition of the needed materials with the aims to assembly the pilot plant by the end of March 2016, according to the particular needs expressed by the client in terms of layout and interference with other installed machineries.

The partners are fine-tuning the existing business plan in the EU markets and finalising the activities for IR preparation.

2. Definition of the engineering activities and executive design to perform in the next months. Discussion of the client's needs in the pilot plant lay-out and planning of test activities

The new water treatment and recovery system moved from the executive design (WP2) to the assembly phase (WP3). The most of the needed components that constitute the machinery are commercial items, already purchased after the preparation of the bill of materials in the MRP. On the other hand, some pieces are produced on purpose by A Due and require adequate manpower to perform the needed manual works.

The partners are committed to finalise the engineering, integration and assembly phase by March 2016, as scheduled, since no significant delays occurred so far, except for the decision where to install exactly the plant by the client, *Consorzio Casalasco del Pomodoro - CCdP* *http://www.ccdp.it/*.

In fact, the assembly of the pilot plant totally meets the client requirements in terms of layout. The client indicated the exact place (also in terms of sqm) in which placing the prototype in order that the machine test does not create interference with the daily production processes.

The construction of the individual functional groups and the interface with the existing system have been already made. All the phases are reported in 4 strictly confidential deliverables (WP3), as follows:

- D3.1 Double reverse osmosis water treatment plant engineering and realization
- D3.2 Functional unit integration and engineering actions
- D3.3 Engineering and realization of water recovery system
- D3.4 Engineering and realization of control and supervising system

The phase of installation at the customer premises (WP4) will be performed in April 2016, while the start-up will initiate within the middle of May 2016 and the test will run from early June 2016 onwards.

The main points taken into consideration for the carrying out of the tests are the following:

a) the logistics complexity at client premises must be well managed by partners;
b) the client must provide with the production waste (concentrates) to add to the water in order to enlarge the tests;
c) the client must provide with the chemicals (e.g. sodium, sodium hypochlorite, etc.) necessary for the sanitisation stages of the new water treatment plant;
d) the final evaluation on how reusing the treated waters (as an ingredient in the production line or for any other services and for utilities in the plant) must be done together by all the partners and the client in order to give the right value to the entire process.

3. Definition of Final Business plan for EU market

The partners discussed and analysed the EU market and the relevant industrial sector (WP5). The discussion focussed on the quantification of the technical strengths and the economic advantages that new water treatment system will produce to the customers, and how penetrate in the EU market, by carrying out a complete competitive analysis, with some highlights on opportunities and threats.

The commercial activities will focus on a particular segment of customers (bottlers with medium-high capacity) mainly located in West Europe, where the cost of water in relation to its availability and consumption implies a higher willingness-to-pay for those customers.

A Due will be the first company to propose in the market this new integrated water treatment solution for the beverage processing, and this will allow the company to gain a bigger market share thanks to the first mover advantage.

As for the economic indicators, the values have been re-estimated and re-calculated taking into account different internal and external factors. The main internal factor are related to some small delays occurred in the implementation of the water treatment system, in particular to comply with the peculiar needs of the client that is willing to test and use the system for its own production in the second half of 2016. This led to a slight postponement of the potential economic turnover to be generated by the water treatment system over the next few years.

Among the external factors, it is worthwhile to underline that the current trends in the beverage industry is strongly influenced by the fall in fruit juice consumption in the first months of 2016 in Europe (as well as in the U.S.), that pushed some companies to concentrate their business elsewhere. In addition, the recent cuts in the estimated growth of EU GDP by the IMF (due to many different reasons) suggest that there might be another fall in general consumptions and in the industrial production. All these phenomena impact on the European turnover estimates of the water treatment system.

However, the dissemination activities (WP6) continues also with participation to events, exhibition, one-to-one presentations to further potential clients and organisation of corporate events for clients: at the beginning of December 2015 A DUE "celebrated" the Orangina Day, with the aim to present its products and the latest development of the Less-Water Bev.Tech project to the main Orangina Suntory Group decision makers.

Dedicated promotional material in various languages (brochures, flyers, roll-up, technical presentation, etc.) has been specifically designed to be shown and distributed during exhibitions and during the direct visits to customers.

Furthermore, A DUE has planned a series of training courses for all the sales force (both internal and external, like the training made at the beginning of October 2015, in Lagos - Nigeria, to SBA Group, A DUE's sales representative for the Central African market, in order to get them ready for promoting the new water treatment system with the maximum efficiency.

All the data and the findings of the business plan are detailed in the deliverable D5.1 Final Business Plan formal definition (EU market) to which a market study on all the MENA Region will be added.

4. Schedule of the next activities to be implemented and sharing the responsibilities among the partner

The technical activities to perform in the next months are those related to WP3 finalisation and WP4 start-up, which foresee the main efforts by ADUE and UNIBO, supported by CVAR, while WP5 activities will continue with the definition of the possibilities given by the market analyses carried out also in MENA region.

Since the production waste (concentrates) must be collected and then inserted artificially and not automatically during the water treatment process, it was agreed that ADUE and UNIBO, in cooperation with the client, will perform the analyses altogether with dedicated personnel at the clients' plant premises with the aim to verify each single condition.

The partners also agreed on the following working plan for carrying out these tests in order to schedule the right timing and the needed internal resources.

UNIBO also agreed to attend at all the plant integration and assembly phases at the premises of *Consorzio Casalasco del Pomodoro (CCdP).*

Phase	Description	Duration	Analyses / Tests	TODO by ADUE	TODO by UNIBO	TODO by CVAR	TODO by CCdP	Required material	Fluid
0	I/O signals tests	5 days	none	signal (hand shakes) tests		signal (hand shakes) tests			
1	UF start-up with retentate of the CCdP Reverse Osmosis	3 days	10 samples per day collected at UF outlet to be analysed with the available instrumentation: spectrophotometer, conductivity meter and PH-meter	assistance to regulations during production and UF washing phases	support, sampling and analysis of the results	regulations during production and UF washing phases	check of the plant in operation		drainage (disposable) from 15.903
2	RO and UV start up	2 days	2 samples per day collected at UV outlet collected to be analysed with the available instrumentation: conductivity meter	assistance to production parameters regulation	support, sampling and analysis of the results	regulation of the production parameters	check of the plant in operation		to be disposed from panel 60.04
3	activated carbon filter start up	2 days	5 samples per day to be analysed with the available instrumentation: Redox meter	assistance to regulation of the parameters during production and washing. Activated filters validation	support, sampling and analysis of the results	regulation of the parameters during production and washing. Activated filters validation	check of the plant in operation, water analysis validation activated carbon efficiency joint validation		drainage (disposable) 15.903
4	regulation at full plant production capacity	2 days	10 (5 UF + 5UV) samples per day to be analysed with the available instrumentation: spectrophotometer, conductivity meter, Redox meter and PH meter ; 2 (1 UF and 1 UV) samples per day to be submitted to in-depth laboratory analysis for the 4-waters without	assistance to production and washing parameters regulation	support, sampling and analysis of the results	production and washing parameters regulation	check of the plant in operation		to be disposed from panel 60.04

Phase	Description	Duration	Analyses / Tests	TODO by ADUE	TODO by UNIBO	TODO by CVAR	TODO by CCdP	Required material	Fluid
			pollutants recovery plant validation						
5	validation of the plant running at nominal flow capacity without pollutants	1 days	3 (UV outlet) samples to be submitted to in-depth analysis for the 4-waters without pollutants recovery plant validation	validation of the plant in standard running	support, sampling for plant validation	validation of the plant in standard running	check of the plant in operation, water analysis for joint validation of the plant without pollutants		to be disposed from 60.04
6	production without pollutants (if so decided)	5 days	1 (UV outlet) samples per day to be submitted to in-depth laboratory analysis	check of continuous unattended run of the plant	none	none	check of the plant in operation, daily sample analysis		to be recovered from panel 60.04
7	production with organic contaminants (tea residuals)	5 days	7 (2 UF + 5 UV) samples per day	assistance to the checkout of the initial settings	support, sampling and analysis of the results	check out of the initial settings	check of the plant in operation, cubitainer filling with product	tea production wastes, considering the average production capacity 10000 l/h per 8 hrs a day with an average dosing of pollutants of 3%, for one week production about 10 cubitainer (product concentrate) will be required	to be disposed from 60.04

Phase	Description	Duration	Analyses / Tests	TODO by ADUE	TODO by UNIBO	TODO by CVAR	TODO by CCdP	Required material	Fluid
8	production with organic contaminants (juice residuals)	5 days	7 (2 UF + 5 UV) samples per day	assistance to the checkout of the initial settings	support, sampling and analysis of the results	check out of the initial settings	check of the plant in operation, cubitainer filling with product		to be disposed from 60.04
9	production with inorganic contaminants (washing solution residuals)	5 days	7 (2 UF + 5 UV) daily samples	assistance to the checkout of the initial settings	support, sampling and analysis of the results	check out of the initial settings	check of the plant in operation, cubitainer filling with product	washing solutions (CIP) wastes, considering the average production capacity 10000 l/h per 8 hrs a day with an average dosing of pollutants of 3%, for one week production about 10 cubitainer (product concentrate) will be required	to be disposed from 60.04

The phase of installation at the customer premises will be performed in April 2016, while the start-up will initiate within the middle of May 2016 and the test will run from early June 2016 onwards.

5. Status of reporting and identification of the next deadlines

The First Progress Report (PR1 - D1.12) has been prepared and submitted to EASME via the participant portal, waiting for the approval or for the required integrations.

The Interim Report (IR - D1.13) will contain descriptions of all the activities performed since the project start (October 2014) to the month 19 (April 2016) and is to be prepared and submitted via online platform by the end of May 2016.

In addition to the technical information, as in the PR1, the Interim Report will include the interim financial statements (since the project start) and sufficient information to allow for a preliminary assessment of the eligibility of costs incurred so far, in order to get the second pre-financing. Partners started collecting all the proofs of expenditures for each cost category in order to calculate the right financial figures to be inserted in this interim financial report.

As for the next deadlines, the following table summarises the deliverables to be produced by September 2016:

N°	Name	Type	Quant.	Accessibility	Month of completion	
D5.3	Technology benefit demonstration and measurement. Technology adaptation. (EU market)	Report	1	CO	22	July 16
D6.14	Workshops organisation	Workshop	1 Workshops for 30 people	PU	22	July 16
D1.7	Project coordination meeting/sub-meetings #6	Meeting minutes	1	PU	23	Ago 16
D5.2	Final Business Plan formal definition (MENA market)	Business Plan	1	CO	24	Sept 16

6. Schedule of the next meetings

The partners will organise a site visit in **June 2016** in order to assess the functionalities of the Innovative Water Treatment System. This visit will foresee the participation of the Company Management, the Technicians responsible for the implementation of the System, the Client testing and using it, the Project Partners/Consultants and the Representative from EASME.

The next project coordination meeting (D1.7) is scheduled on August 2016. However, due to the summer holidays, it could be shifted in **September 2016**.

As for the Workshops organisation (D6.14), the partners are still discussing whether postponing it in **Autumn 2016**, in order to get the opportunity to hold it during an important sectorial exhibition. This will give the project and the new treatment system a higher visibility.

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