




## EDITORIAL

Dear readers,

We are pleased to present you the 1st DESSIN Newsletter, which provides information about the start-up of the project, news, recent achievements, interviews, articles and upcoming events.

This newsletter is sent to a large target group including water practitioners, researchers, policy-makers, DESSIN stakeholders and the media. However, we will appreciate if you could forward it to interested colleagues and invite them to subscribe to the newsletter through the project website.

In this first number, you will find an interview with the project coordinator, David Schwesig (IWW). After an introductory article about the five demo sites, there is a text talking about Ecosystem Services (ESS) and another one about the DESSIN marketplace, where DESSIN innovations and interesting research outcomes are introduced regularly.

More information can be found on our website: **[www.dessin-project.eu](http://www.dessin-project.eu)**, which offers, among other things, in-depth information about project results, material available to download and detailed partners' information.

We hope this newsletter is of your interest and will keep you informed on the DESSIN project development, as well as on the field of ESS. If you have any comments or recommendations to improve our website or newsletter, would like to collaborate or if you have any question, please feel free to contact us by e-mail (**[info@dessin-project.eu](mailto:info@dessin-project.eu)**) or by our online form to be found in the website.

Best regards,

DESSIN Team

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## OUR DEMO SITES: WHAT'S HAPPENING?

DESSIN is centered on five carefully selected demonstration sites across Europe, which represent the global major water challenges. These demo sites are:

**Emscher (Germany) • Hoffselva (Norway) • Westland (Netherlands) • Athens (Greece) • Llobregat (Spain)**

At the demo sites, DESSIN brings together public and private water management organisations and end-users, technology providers (SMEs), supporting RTD experts and relevant public authorities to demonstrate and promote innovative solutions to water-related challenges, with a focus on water quality issues related to the implementation of the Water Framework Directive (WFD) and water scarcity. The second goal is to demonstrate a methodology for the valuation of ESS as catalyser for innovation in water management.

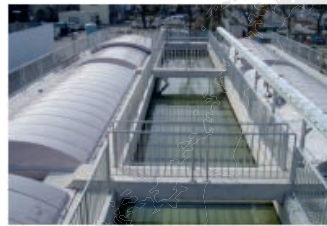
The solutions proposed include technological, monitoring, modelling and management approaches for a more resource-efficient and competitive water sector in Europe, such as decentralized water treatment units, real time control of large scale systems, sewer mining and storage of freshwater in aquifers, among others. Additionally, DESSIN develops and applies an Evaluation Framework to assess the sustainability aspects of the mentioned solutions and to value changes in ESS of water bodies that result from the implementation of these solutions.

# DESSIN DEMONSTRATION SITES

- ∅ ESS MATURE SITE
- DEMO SCARCITY
- DEMO WFD (QUALITY)

### 2. HOFFSELVA

High-rate filter applied in Combined Sewer Overflows (CSOs) and assessment of communication technologies for CSOs



### 3. WESTLAND

Freskeeper and smart desalination. Aquifer Storage and Recovery (ASR) coupled with Reverse Osmosis (RO) to optimise water quality



### 1. EMSCHER

Real Time Control (RTC) of sewer network and lamella settling as decentralised treatment for Combined Sewer Overflows (CSOs)



AARHUS ∅

EMSCHER



### 5. LLOBREGAT

Flexible Aquifer Storage and Recovery (ASR) to improve groundwater resources. Injection and recovery schemes for the optimisation of local water resources

EBRO

### 4. ATHENS

Sewer mining for Urban reuse enabled by Advanced Monitoring Infrastructure (AMI) and Decision Support System (DSS) development



DESSIN is a special project to boost innovation in the water sector because it combines promising techniques and methods and an evaluation framework for ESS

## INTERVIEW// DAVID SCHWESIG - PROJECT COORDINATOR

IWW Water Centre in Germany is offering research, consulting and development services for the water sector. Six departments cover the entire drinking water supply chain: active water resources management, water technology, water networks, water quality analysis, applied microbiology and water economics. Within DESSIN, IWW will lead the development of the ecosystem services evaluation methodology and contribute to tasks on policy, finance and governance and the validation of the evaluation methodology.

DESSIN co-ordinator David Schwesig is an environmental scientist who received his PhD from the University of Bayreuth in 2001 for a study on the biogeochemistry of mercury and methylmercury. He has been working with IWW since 2002, with a focus on drinking water quality and analysis. David is coordinating the research activities of IWW and is active in several water-related European Networks such as the WssTP and the Aqua Research Collaboration ARC. Besides DESSIN, he is currently also coordinating another FP7 collaborative project (TRUST).

### What makes the DESSIN project unique?

A very special feature of DESSIN is the twofold approach we are following: On the one hand, DESSIN is demonstrating a couple of promising techniques and methods that will really lead to improvements of the local water cycle at each of the five DESSIN demonstration sites across Europe. On the other hand, we are developing and implementing a harmonized evaluation framework for ecosystem services, which will be a product of its own but also an important tool to demonstrate and quantify the ecological and economic benefits gained by implementing the DESSIN technology solutions. It's the combination of these two complementary elements what makes DESSIN a special project to boost innovation in the water sector.

### Which are the main characteristics of the demonstration sites chosen?

When we were building the consortium for DESSIN, we were making a careful choice of demonstration sites which are representative of global major water challenges in the areas of water scarcity and water quality. Although solutions demonstrated in DESSIN need to be tailored to the specific local needs to some extent, we are aiming to deliver validated solutions with a high transferability potential to other sites with similar challenges, within Europe or even beyond. Another characteristic of the DESSIN demonstration sites is the clear ambition of the site owners (or problem owners) to really go for a change. At all sites, we are not starting from scratch but linking to and building on already existing initiatives and investment plans. This makes me quite confident that the work done at the DESSIN demonstration sites will be successful and have an impact at a larger scale.

### Which are the strengths of the DESSIN consortium?

I think DESSIN has the perfect combination of actors for a successful innovation and demonstration project: We have the site owner or problem owner either as a direct partner or strongly linked to the project; we have technology providers (SMEs) with cutting-edge technologies that are very promising, and we have strong local research partners who are familiar with both, the technologies to be adapted and demonstrated, and the characteristics of the demonstration sites. In many cases, the key partners within the five local demonstration clusters have a track record of many years of fruitful collaboration, which is another bonus for a smooth progress of the project.

### What are the expected synergies between DESSIN and

### the recently launched EIP ESE Action Group?

When we became aware of EIP Action Group "Ecosystem Services for Europe" (ESE) we quickly realized that joining forces can lead to a win-win situation. DESSIN and ESE both aim to develop an evaluation framework for ecosystem services, and doing this together will avoid duplication of work and give a higher level of acceptance, because our common framework will have gone through a broader consensus process. It will also broaden the scope and applicability of our evaluation framework: Whereas DESSIN is more focused on surface waters and ground waters within or close to urban areas, ESE also aims to cover other types of ecosystems such as wetlands and forested areas. Last but not least, having the evaluation framework developed within the EIP context will surely result in another level of visibility.

### What is your opinion about the first six months of the project and the next steps to be followed?

To my experience, the first six months of a collaborative project are crucial, because during this stage the foundations for several years of collaboration are laid, in terms of establishing the relations among all actors, agreeing on the mode and procedures of cooperation and building trust among the many people involved. For DESSIN, I'm happy to say that we really got an unusually smooth and successful start and therefore I am quite positive about the future progress of DESSIN. A lot is already going on with regard to the technology development and installation at the demonstration sites, and at some sites we are even ahead of schedule. An important milestone of DESSIN will be the first version of the evaluation framework for ecosystem services, which is scheduled for end of this year.



IWW team

## SUCCESS STORY

### KICK OFF MEETING OF THE PROJECT IN BRUSSELS

On the 28th-29th January 2014, the DESSIN project kicked off in Brussels. All the partners met for two days in order to introduce themselves and to get to know each other. The main goal of this kick-off meeting was to have a first contact with the rest of the partners and to establish the first steps to be followed in order to start working on the DESSIN project. The first day was dedicated to present each Work Area and Work Package, to have an overview of all the tasks and the role of each partner in all of them. Besides, the project coordinator (IWW) offered an explanation about administrative and financial issues to be considered.

The second day started with the feedback from the Advisory Committee's members and it was mainly a working session. It had two parallel meetings between different Work Areas in order to discuss some issues with more detail.

Finally and EIP Action Group ESE meeting with the participation of DESSIN WA leaders took place.



Members of DESSIN Consortium

## ESS SECTION

### LINKING INNOVATIONS TO CHANGES IN ECOSYSTEM SERVICES: THE DESSIN ECOSYSTEM EVALUATION FRAMEWORK

New solutions and advances in technology are needed to meet the current water quality and scarcity challenges faced by Europe. However, such innovations are themselves typically confronted with great barriers to their implementation. In particular, innovation uptake is limited by the difficulty of conducting comprehensive comparisons between the value of established technologies/management options and novel alternatives. In this context, the ecosystem services approach (ESA) may enable a standardised evaluation of impacts from innovations, in particular by integrating the economic, environmental and societal dimensions. Using the ESA to compare the potential of technologies and management options may help generate additional incentives and arguments for market uptake and practical implementation of innovations.

The Ecosystem Services Evaluation Framework being developed under Work Area 1 of DESSIN aims to enable the assessment of changes in the provision of ecosystem services

relative to the implementation of new water technologies. The framework will operate using a common set of ecosystem typologies and ecosystem service categories (MAES<sup>1</sup> / CICES<sup>2</sup>) and will illustrate the linkages between elements of freshwater ecosystems and changes in ecosystem services by means of selected indicators/proxies. Furthermore, the toolkit will be complemented with a sustainability assessment module.

Through its testing and application on mature case study sites within DESSIN, a beta version of the Evaluation Framework will be fine tuned and validated. The finalised framework will then be developed into a software module that will be compatible with an existing decision support system. This key outcome of DESSIN will enhance the accounting of benefits from the implementation of the WFD Programmes of Measures and it will help catalyse the uptake of innovative technologies in the European water sector and beyond.

<sup>1</sup>Mapping and Assessment of Ecosystem Services, for more info visit <http://biodiversity.europa.eu/maes>

<sup>2</sup>Common International Classification of Ecosystem Services, for more info visit <http://cices.eu/>

## DESSIN MARKETPLACE

### KICK OFF WITH FIRST ASSESSMENTS OF NEEDS AND PREPARATION OF SPECIFIC MARKET ANALYSIS

Adelphi is responsible for analysing and supporting the route to market of DESSIN's innovative water technologies and approaches. This is done in close cooperation and partnership with the participating SMEs, thus maximising the market reach and impact of the specific water technologies, methodologies and innovative solutions developed under the project. Our aim is to demonstrate the validity of ESS relevant solutions to water quality and scarcity issues and to create demand side dynamics as well as policy support for them. Here we are particularly building on the experiences in our mature cases. In this context, also the ESS evaluation framework developed under the project to maximise the market reach and impact of these innovative solutions will be promoted.

During the past month we have started with a systematic assessment and characterization of the various DESSIN solution packages that are developed at the pilot sites. Therefore, a survey has been conducted which has been further substantiated through in-depth interviews with individual SMEs. Furthermore, close links to other relevant work packages have been established. Building on these insights we are able to refine the value proposition of the DESSIN solution package as a whole as well as of the individual technologies and their ESS relevance. Together with the communication team we are

working on a DESSIN technology and product promotion plan to achieve the greatest possible impact at our target audience. This cooperation ensures the incorporation of insights from our market assessment and assessment of governing framework conditions to meet our various stakeholder group specific information needs.

This year's key products will be a) a market analysis (Inside-Out) report and b) two specific business environment reports (Outside-In) for water quality and quantity challenge solutions.

The market analysis seeks to develop a sample approach that can be taken up by SME and other technology developers and be adapted to their specific product and market situation. Our inside out analysis will focus on the local context.

Drawing from our current understanding the business environment report approaches two distinct dimensions: understanding local framework conditions (resp. policies and regulations, economic constraints and opportunities, specific cultural and regional challenges, and existing market demands) and the European and international development trajectories.

## DESSIN ACHIEVEMENTS

### KICK-OFF MEETING IN GERMANY

Purpose of the DESSIN kick-off meeting between the German project partners UFT Umwelt-und Fluid-Technik and the University of Duisburg-Essen (UDE) was to determine the status quo and to prepare the starting actions for their participation in the DESSIN project.

The meeting took place in Bad Mergentheim (Germany) on the 20th of March and was attended by five participants from UFT and UDE. A short introduction on lamella settlers in general was given by Gebhard Weiß from UFT and results of a recent research project on a different type of lamella settlers (counter-flow) were discussed. Concept, design and first results of the model test rig, which is finished and ready to run for DESSIN, were explained. Next steps by UFT are the performance of more tests, the improvement of the test methods and a thorough evaluation of the test results. UDE is going to build a numerical model of the experimental rig for 3-D flow visualisation.






### NORWEGIAN KICK-OFF MEETING

The local Norwegian kick-off meeting of DESSIN took place at the beginning of March in Oslo, Norway. Organized by SINTEF, ten people from research institutes, industry and municipal institutions attended the meeting. Main purpose of the meeting was for the people from the different organisations to meet and to discuss and plan the tasks lying ahead to ensure that DESSIN is going to meet its objectives. After a brief overview of the DESSIN project, the links between the activities in Norway and other parts of DESSIN were pointed out.

Then the tasks from the work packages prior to the demonstration were presented and discussed (development of an evaluation framework for impacts of changes on ESS, innovative and innovation-friendly modes of governance, financing and payment, local treatment of CSO by High Rate Filtration and the integration of local CSO treatment units by monitoring and data communication).

After a visit to the demonstration site at Hoffselva, the tasks during demonstration were discussed (demonstration of cross flow lamella settling for local treatment of CSO, demonstration of High Rate Filtration for local treatment of CSO overflow, demonstration of monitoring and data communication for local CSO treatment and the monitoring water quality in Hoffselva and evaluation of solutions).

## UPCOMING EVENTS

	<p><b>26-30 AUG</b></p> <p><b>6th Annual International ESP (Ecosystem Services Partnership) Conference 2013</b>          Organiser: International Society for Ecological Economics          Country: Bali, Indonesia  <a href="http://www.isecoeco.org/ecosystem-services-partnership-esp-conference/">http://www.isecoeco.org/ecosystem-services-partnership-esp-conference/</a></p>
<p><b>8-10 SEPT</b></p> <p><b>Second Iberian Groundwater Conference</b>          Organiser: UPV          Country: Valencia, Spain  <a href="http://iah.org/events">http://iah.org/events</a></p>	
	<p><b>11 SEPT</b></p> <p><b>MAR – SAT expert workshop</b>          Organiser: MEKOROT          Country: Israel  <a href="http://demoware.eu/en/news-and-events/events/mar-sat-expert-workshop">http://demoware.eu/en/news-and-events/events/mar-sat-expert-workshop</a></p>
<p><b>24-26 SEPT</b></p> <p><b>ASR workshop in the Conference: Deltas in times of Climate Change</b>          Organiser: UPV          Country: Rotterdam, Netherlands  <a href="http://www.climatedeltaconference2014.org/">http://www.climatedeltaconference2014.org/</a></p>	
	<p><b>20-21 OCT</b></p> <p><b>Final SCARCE International Conference: River conservation under water scarcity. Integration of water quantity and quality in Iberian Rivers under global change</b>          Organiser: CSIC          Country: Tarragona, Spain  <a href="http://www.scarceconsolider.es/publica/P000Main.php">http://www.scarceconsolider.es/publica/P000Main.php</a></p>

## PARTNERS

