

NORMAN Joint Programme of Activities (JPA)

List of scientific activities organised by the NORMAN network in 2017

The *NORMAN Joint Programme of Activities (JPA)* is defined every year by the Steering Committee, after consultation with the membership (General Assembly meeting and e-mail survey).

The final JPA and the associated budget are approved by the Steering Committee, taking into account the following criteria:

- the level of interest of the members (results of the survey);
- the relevance of the research topic to European environmental policies;
- the balance between different sectors / fields of interest;
- the relative value of the proposed in-kind contribution vs amount of resources required.

The Steering Committee has approved a budget of € 180 945 for 2017, based on the expected income from membership fees of the Founding and Ordinary members. These resources will be allocated for scientific and coordination activities (including the NORMAN website), and regular updating and maintenance of the databases.

NOTE: The NORMAN network JPA is financed by the contributions of its members (membership fees and members' in-kind contributions), always with a view to maximising synergies between research teams in the field of emerging substances.

The list of approved scientific activities for 2017 is as follows:

Databases:

- **NORMAN EMPODAT database** (EI slobodnik@ei.sk, ipolyi@ei.sk).

Continuous development and maintenance of the **NORMAN EMPODAT database** with a specific focus on the following tasks:

- **EMPODAT Chemical module**
 - Maintenance, upgrading and feeding of new data into the database;
 - Programming of new customised statistics for a semi-automated 'Prioritisation module';
 - Compilation of background table(s) for the list of all NORMAN (EMPODAT, Suspect Data Exchange (SusDat), industrial) substances, including *i.a.* their INChIKeys, SMILES, retention time indices (LC-MS), retention indices (GC-MS), categories of use, chemical categories, classification & labeling (PBT, CMR, ED), physico-chemical properties (via ChemProp) and literature LOQs (where possible by WG 1);
 - Addition of the 'Exposure index' to the background table(s) (as soon as its development within WG-1 is finalised);
 - Implementation of automated quality control tools for identification of outliers in the collected datasets and development of mechanism for removal/flagging of outliers;
- **EMPODAT Ecotox module**
 - Establishing a baseline of the 'Lowest PNECs' (and associated key studies) used for prioritisation exercise in 2016;
 - Upload of new ecotoxicological datasets into the ECOTOX module;
 - QSAR predictions (P-PNECs) for substances without ecotoxicological data in the literature and existing databases using ChemProp;
 - Testing of the newly developed 'CRED' sub-module designed for automated allocation of reliability and relevance scores, which are then used to support the selection of the key studies for the derivation of the Lowest PNEC;
 - Testing of the newly developed 'PNEC derivation' sub-module (automated calculation of the 'Lowest PNECs' from pre-selected key studies incl. SSD approach);
- **EMPODAT Indoor Environment module**
 - Implementation of the Indoor Environment data module;
 - Upload of test data sets (WG-6);
- **EMPODAT Bioassays Monitoring module**
 - Development of the EMPODAT "Bioassays Monitoring data" module - mirroring "Bioassays Monitoring data" module developed within the SOLUTIONS project;
 - Upload and quality check of data from the EDA-EMERGE European Demonstration Programme;
 - Testing of a quality scoring system for bioassays monitoring data (to be proposed by WG-2);

- **EMPODAT Passive sampling module**
 - Implementation of the Passive Sampling data module in EMPODAT as an upgrade of the SOLUTIONS Passive Sampling data module (further to approval of the final Data Collection Template within the Passive Sampling Cross Working Group);
 - Upload of new datasets by members of the Passive Sampling Cross Working Group Activity.
- **Database activities related to Non-target screening** (EI slobodnik@ei.sk, ipolyi@ei.sk)
 - Regular update of the NORMAN Suspect List Exchange; proposal of a query allowing for fast sub-selection of specific groups of substances (e.g. indoor environment specific, marine biota relevant, etc.);
 - Implementation of the NORMAN Non-target Screening Data Exchange Platform (NTS DEP or Digital Sample Freezing Platform) based on the NTS Data Collection Templates;
 - Testing of the feasibility of using high resolution mass spectrometry data obtained by instruments from different vendors and their accessibility on servers of "NORMAN testing" partners (federated e-infrastructure);
 - Development of automated procedures to fill out DCTs using software programmes of all major HR-MS vendors;
 - Testing of the functionality of the NTS DEP on the datasets obtained during the Joint Danube Survey 3 (JDS3; 2013) and Joint Black Sea Survey (2016);
- **Review of the NORMAN database system: NORMAN Database workshop** (see AW-1)
 - To be organised by EI and UBA in Berlin in May/June 2017;
 - Participation of both data managers and IT experts to discuss further upgrade of the existing database modules, harmonisation and interconnection of all of the above-mentioned modules within the NORMAN database system; links to national and European database systems; links to the NORMAN Open Access Platform;
 - Definition of procedures to interlink the NORMAN database system with IPChEM and its future extensions.

First steps towards the development of specific EMPODAT modules on Antibiotic Resistance Bacteria/Genes (ARBs/ARGs; in cooperation with the ANSWER project)..

- **NORMAN MassBank** (UFZ tobias.schulze@ufz.de and Eawag Emma.Schymanski@eawag.ch).
Continuous development and upgrade of NORMAN MassBank (permanent activity) to support storage of mass spectral information for identification of unknowns (as part of the NTS-Cross-Working Group Activity). The work in 2017 will focus on:
 - Further development and curation of RMassBank;
 - Further development of the MassBank server platform (e.g. replacement of Java Applets, database and applications programming interface, curation of records, import and export of records);
 - Fostering the integration of MassBank with other mass spectral and metadata platforms (e.g. MoNA, ChemSpider, StoffIdent, US EPA CompTox);
 - Fostering the discussion with vendors for better integration of vendors' programs with MassBank;
 - Upload of mass spectra to MassBank (UFZ, Eawag, others).

Expected outcomes 2017:

- Many new environmental spectra in MassBank;
- Continuous enhancement of the MassBank server platform;
- Improvement of the usability of MassBank in vendors' programs (e.g. via NIST libraries).

Scientific activities:

SWB NORMAN Bulletin	NORMAN Bulletin on Emerging Substances (6 th issue) and collaboration with the journal "Environmental Sciences Europe" (ESEU) (coordination as in-kind contribution by INERIS valeria.dulio@ineris.fr and fabrizio.botta@ineris.fr , with science notes contributed by various NORMAN members).
WG-1 Prioritisation of emerging substances	Working Group N°1: Prioritisation of emerging substances (on-going activity coordinated by INERIS valeria.dulio@ineris.fr in collaboration with EI slobodnik@ei.sk and UBA peter.vonderohe@uba.de). The work of WG-1 in 2017 will focus on the following tasks: Task 1: Support to the prioritisation work of the EC (surface water). The work of NORMAN WG-1 in

	<p>support of substances prioritisation at EU level (Watch List and PS review) will be pursued in 2017,</p> <p>Task 2: Collection and compilation of physico-chemical properties, new ecotox data, existing PNECs and monitoring data in EMPODAT to support categorisation and prioritisation of the NORMAN list (permanent task). The same information will also be collected for the substances in the NORMAN “Suspect List Exchange” initiative (ca. 10,000 substances) and for a list of Industrial Chemicals (ca. 15,000 substances), thereby allowing for their eventual non-target screening prioritisation. InChIKeys will be used to interconnect the different modules of EMPODAT database and to link EMPODAT with the external database platforms, such as FOR-IDENT.</p> <p>Task 3: ECOTOX module finalisation and implementation.</p> <p>Task 4: Programming of new customised statistics for a semi-automated “prioritisation module” in EMPODAT allowing for categorisation and prioritisation of substances and ultimately feeding the NORMAN Substance factsheets.</p> <p>Task 5: Ecotoxicity testing for 3–5 compounds prioritised in Category 3 (already started in 2016).</p> <p>Task 6: Critical analysis / Improvement of the NORMAN categorisation / prioritisation scheme.</p> <p>Task 7: Finalisation and testing of an operational exposure index for pharmaceuticals and biocides (already started in 2016).</p> <p>Task 8: Drafting of a guidance document for prioritisation of substances from the non-target screening workflow by NORMAN NTS CA experts in 2016 in collaboration with WG-1.</p>
Sub-Group Prioritisation CECs in GW	<p>Sub-Group Prioritisation of contaminants of emerging concern in groundwater (GW) (on-going activity coordinated by BRGM b.lopez@brgm.fr in collaboration with UBA ruediger.wolter@uba.de)</p> <p>NORMAN Sub-Group GW has developed a classification system for prioritisation of GW contaminants and will pursue its support to the prioritisation work of the Commission for the preparation of a GW Watch List proposal (in-kind contribution).</p>
WG-2 Bioassays	<p>Working Group N°2: The value of bioassays and biomarkers in water quality monitoring programmes (on-going activity coordinated by RWTH – Aachen University Henner.Hollert@bio5.rwth-aachen.de).</p> <p>The work of WG-2 Bioassays in 2017 will focus on the following tasks:</p> <p>Task 1: Follow-up and finalisation of the Science Policy Interface (SPI) project on “Effect-based and chemical analytical monitoring approaches for steroidal oestrogens” lead by the Swiss Centre for Applied Ecotoxicology (CH), Eawag-EPFL robert.kase@oekotoxzentrum.ch. The aim of the project is to demonstrate the applicability of specific effect-based tools for the monitoring of the 1st EU Watch List substances, EE2 and E2. NORMAN support to the SPI project was already part of NORMAN JPA 2015 and JPA 2016. Expected outcomes for 2017:</p> <p>(1) Non-target screening data produced by EI (in-kind contribution) for 8 selected surface water samples of the project will be evaluated and compared with the <i>in vitro</i> and <i>in vivo</i> assay results. 1–2 publications on the study will be produced.</p> <p>(2) The <i>in vivo</i> oestrogenic activity will be quantified for the whole set of 33 surface water samples using the zebrafish embryo EASZY assay (action leader: INERIS francois.brion@ineris.fr). The objective is to compare the <i>in vivo</i> E2-equivalents derived from EASZY with the <i>in vitro</i> E2-equivalents. It is important to obtain a critical mass of <i>in vivo</i> data in order to support the determination of a threshold value of E2-equivalent above which an oestrogenic effect is observed at the organism level. The <i>in vitro</i> threshold value which will be derived from the comparison between <i>in vitro</i> and <i>in vivo</i> responses is critical for the application of bioanalytical tools in the WFD. This action will complement an ongoing study co-funded by AQUAREF in France.</p> <p>(3) A workshop on the Oestrogen Monitoring Project will be held at Eawag in Dübendorf in June 2017 (in collaboration with the SOLUTIONS project).</p> <p>Task 2: Organisation by RWTH–Aachen of a wide-scope WG-2 meeting on 26 April 2017 in Aachen (already planned as part of JPA 2016) in order to prepare a common position and reach consensus within the wider scientific community (NORMAN, SOLUTIONS, DEMAU, etc.) on how to use bioassays to deal with chemical contaminants in view of the review of the WFD (including, agreement on the methodology to derive trigger values, definition of a common battery of bioassays with associated trigger values for implementation in future regulations, definition of quality / performance criteria for the benchmarking of bioassays, etc.). The WG discussion will also address new fields of work, such as aquatic neurotoxicity assessment.</p>
WG-3 Effect-directed	<p>Working Group N°3: Effect-directed analysis for hazardous pollutant identification (on-going activity coordinated by UFZ werner.brack@ufz.de and IVM marja.lamoree@ivm.vu.nl).</p>

analysis	<p>The work of the EDA WG in 2017 will focus on the following tasks:</p> <p>Task 1: Organisation of a collaborative exercise (monitoring campaign) within NORMAN, involving sampling, analysis and bioanalysis of a substantial number of samples and multivariate analysis of the results. The aim is to collect samples from about 50 municipal WWTP effluents after different types of treatment all over Europe. Effluents will be collected using a simplified (50 L) LVSPE equipped by UFZ. This will be supported by chemical target- and non-target screening with LC-HRMS and bioanalytical screening with a battery of selected small volume, high throughput tests.</p> <p>Outcome: 1) Input to the European discussion on WWTP upgrading; 2) Input to European discussion on effect-based monitoring tools; 3) Input to European discussion on priority pollutants and priority mixtures. The results will be used for joint scientific publication(s) involving all participants and more policy-oriented formats. (Leader: UFZ werner.brack@ufz.de).</p> <p>Task 2: Two-day workshop on Integrated Exposure and Effects Assessment, in collaboration with US EPA and NIES-Japan and under the umbrella of the NORMAN network (11–12 April 2017, VU, Amsterdam) (Leader: IVM marja.lamoree@ivm.vu.nl) (NOTE: this task is already part of the NORMAN JPA 2016).</p>
WG-4 Engineered nanoparticles and microplastics	<p>Working Group N°4: Engineered nanoparticles (on-going activity coordinated by EAWAG – Ralf Kaegi Ralf.Kaegi@eawag.ch) (in-kind contribution for 2017).</p> <p>Further to the outcomes of the NORMAN EG on Microplastics (which took place in June 2016 in Berlin, as part of the NORMAN JPA 2016), it was agreed to extend the scope of activities of WG-4. Starting in 2017, NORMAN WG-4 will focus on engineered nanoparticles (ENM) and on micro and nanoplastics (MP) in freshwaters. The focus for micro and nanoplastics will be on freshwaters and associated environmental matrices. The scope of the activities of WG-4 will NOT include macroplastics.</p> <p>The work of WG-4 in 2017 will focus on the following tasks:</p> <p>Task 1: As regards micro and nanoplastics, to establish a Microplastics-network within NORMAN, starting from existing connections and experience. The main topics addressed will be:</p> <ul style="list-style-type: none"> - Standardisation and methodological developments (materials, sample preparations), interlaboratory comparison studies, in connection with the EPHEMARE–JPI Ocean project (Ecotoxicological effects of microplastics in marine ecosystems). - Detection of microplastics in complex matrices. - Characterisation of fluxes in the environment. - Evaluation of impacts on biota in aquatic systems. - Requirements for the development of a common database. <p>Task 2: As regards engineered nanomaterials, NORMAN WG-4 will contribute to the organisation of the 5th Workshop on Field-Flow Fractionation-Mass Spectrometry (FFF-MS). Field-Flow Fractionation (FFF) coupled on-line with Mass Spectrometry (MS) (especially ICP-MS) is a powerful and promising technique. However, its handling is demanding and specific workshops addressing challenges, solutions, practical experience and up-to-date applications of FFF-MS in the context of nanomaterial analysis are crucial to exchange experience among experts.</p> <p><i>NOTE:</i> The previous editions of these workshops took place under COST Action ES1205 “ENTER” (http://www.es1205.eu/), connected to WG4. Funding of the workshop was provided via the COST Action. However, the COST Action will come to an end by April 2017. Due to the success of this initiative, a financial contribution has been approved as part of the NORMAN JPA 2017.</p>
WG-5 Wastewater reuse and contaminants of emerging concern	<p>Working Group N°5: Wastewater reuse and contaminants of emerging concern (on-going activity coordinated by NIREAS, University of Cyprus – Despo Kassinos dfatta@ucy.ac.cy in collaboration with Catholic University of Porto – Celia Manaia cmanaia@porto.ucp.pt and University of Dresden thomas.berendonk@tu-dresden.de).</p> <p>Two screening campaigns were organised in 2014 and in 2015 on a representative set of WWTP around Europe and Mediterranean countries. The effort of WG-5 concerned the development of protocols for a set of resistance genes in order to quantify resistance genes in combined treatment and reuse systems (i.e. wastewater and surface receiving water), as well as receiving agricultural systems. The results of this work highlighted the need for further analysis of the lab-to-lab variation of antibiotic resistance quantification, and, eventually, the need to redefine some experimental conditions in particular for genes so far detected close to or below the quantification or detection limit.</p> <p>The tasks for 2017 will include:</p> <ul style="list-style-type: none"> - Inter-lab calibration work for further analysis of the lab-to-lab variation of antibiotic resistance quantification.

	<ul style="list-style-type: none"> - Optimising the set of resistance genes and the respective primer pairs according to the receiving environment. - Establishment of a statistical approach to verify statistically-significant variations within and between samples for the quantification of resistance genes in samples from different receiving environments.
WG-6 Emerging contaminants in the indoor environment	<p>Working Group N°6: Emerging contaminants in the indoor environment (on-going activity coordinated by IVL Eva Brorström-Lundén Eva.BL@ivl.se in collaboration with IVM pim.leonards@ivm.vu.nl and University of Antwerp adrian.covaci@uantwerpen.be). The work of WG-6 in 2017 will follow the strategy plan for the indoor environment. In 2016, the WG made very good progress with a number of activities. Firstly, the requirements for a database of emerging chemicals in air and dust were agreed upon. Also a first suspect list of emerging chemicals was defined, which is needed for the database. Secondly, an interlaboratory study of non-target screening in dust was organised and a first assessment of the data has been made. Thirdly, a first inventory of protocols for sampling and analysis of emerging chemicals (including non-target screening) in dust and air were made.</p> <p>The following work is planned for 2017:</p> <ul style="list-style-type: none"> - Implementation of the database module for the indoor environment in the NORMAN EMPODAT database (Leader: IVL Eva.BL@ivl.se). - First draft of a protocol for dust sampling and characterisation (Leader: IVM pim.leonards@ivm.vu.nl and University of Antwerp adrian.covaci@uantwerpen.be). - Collection of available indoor environment monitoring data and upload into EMPODAT database (Leader: IVL Eva.BL@ivl.se). - First test of a method for prioritisation of CECs for the indoor environment based on the NORMAN prioritisation scheme (applied in the water compartment). - Organisation of a workshop on non-target screening in dust (results from the NORMAN NTS Collaborative Trial in dust). The workshop will be organised as a satellite event at the ICCE2017 conference which will take place in June 2017 in Oslo (see "NORMAN Collaborative Trial: Non-target and suspect screening methods for organic substances in indoor dust"). <p>A WG-meeting is planned to take place on 5 October 2017 in Antwerp.</p>
Non-target screening Cross-Working Group Activity (NTS CWA)	<p>Cross-Working Group Activity on Non-target screening (on-going activity coordinated by Eawag juliane.hollender@eawag.ch in collaboration with NIVA kevin.thomas@niva.no, EI slobodnik@ei.sk, UFZ tobias.haglund@ufz.se and University of Athens Nikos Thomaidis ntho@chem.uoa.gr).</p> <p>The NTS CWA will lead the following tasks in 2017:</p> <ul style="list-style-type: none"> - Continuation of NormaNEWS, discussion of results of first round (NIVA, UoA) (see "NormaNEWS"). - Set-up of further "suspect" substances lists on the NORMAN server (EI, Eawag). - Enlargement of MassBank through spectra of NORMAN emerging compounds and target compounds of NORMAN partners (Eawag, UFZ) (see "NORMAN MassBank / RMassBank"). - Set-up of a repository for MS data (UFZ, EI) (see "NORMAN Non-target screening data exchange platform"). - Testing and further development of retention time prediction/index (UoA, UFZ) (see "Development of models for the prediction of retention time index in LC-MS"). - Assessment of results of Indoor Environment CT and organisation of workshop for discussion of the results (NILU) (see "ILS-1") - Meeting to discuss the progress of the different activities as well as to discuss a guideline for non-target screening based on the results of the two CTs and further results from other activities in NORMAN and beyond (linked to the ICCE conference 2017 in Oslo) (Eawag, all). <p>NORMAN has received important recognition through the NTS activities and is seen as a lead for NTS in Europe. Regulators and policy-makers recognise the need for NTS. NORMAN actions will help NTS techniques to become practically accessible to many labs.</p>
NTS CWA: NormaNEWS and retrospective screening	<p>NormaNEWS and retrospective screening (Leader: NIVA, kevin.thomas@niva.no in collaboration with UoA, ntho@chem.uoa.gr).</p> <p>The concept of NormaNEWS is that when one group identifies a new contaminant of emerging concern, identification criteria are sent to other members of the group who use retrospective analysis techniques to check their own samples. This way we can rapidly establish the occurrence of newly identified compounds of emerging concern across Europe and beyond (thereby contributing to identification of future priority contaminants).</p> <p>In 2016 a pilot activity was performed in order to evaluate the approach http://www.normandata.eu/?q=node/244. The pilot activity brought together interested parties</p>

	<p>working on non-target analysis and having already accurate mass high-resolution mass spectrometry data for environmental samples. The results of NormaNEWS are in place and have been quality assured. For 2017 the goals of NormaNEWS are:</p> <ul style="list-style-type: none"> - To summarise and publish the results (proof of concept for NormaNEWS and Suspect List Exchange). - To prepare a public guidance document for future studies. - To co-host a workshop (as part of the NT workshop in Oslo, back-to-back with ICCE 2017). - To expand the concept to new substances and a greater number of partners.
<p>NTS CWA: Non-target screening data exchange platform</p>	<p>Creation of a new data exchange platform which should (1) allow exchange of information on non-target data and tentatively identified compounds; (2) relate non-targets to samples and samples locations; (3) provide a link to raw stored on data owners' servers side so as to allow advanced external profiling analysis with workflows. (Leader: UFZ tobias.schulze@ufz.de ; contributions from EI and UMEA).</p> <p>Action already approved and planned as part of the NORMAN 2016 JPA and postponed to 2017 (it was not possible to identify and contract a skilled person in 2016).</p> <p>It is proposed to base the development of such a platform on already existing software that will be customised. For example, ckan also has the capability to build federated e-infrastructures (that means that a main portal collects and presents all data received from external, distributed data providers). A server-based workflow for basic data profiling will be deployed. The advantage of the distributed system is: (1) control of own data and (2) no overload of one institute with large raw data records. All data are federated by a central portal.</p> <p>Data access can be private (e.g. for restricted data or to keep it under embargo before publication), open for a group or open access for the public. Metadata information on the existence of a dataset should be open access anyway. The test cases for the platform will be the NORMAN non-target CT, the whole JDS3 dataset and the recently datasets obtained from the Joint Black Sea Survey (2016).</p>
<p>NTS CWA: Development of models for the prediction of retention time index in LC-MS</p>	<p>Development of models for the prediction of a Retention Time Index (RTI) in LC-MS (follow-up of the action started in 2016) (Leader: University of Athens - Nikos Thomaidis ntho@chem.uoa.gr in collaboration with UFZ – Martin Krauss martin.krauss@ufz.de).</p> <p>During the last year the development of an (RTI) system based on QSRR modelling was done. The models were internally validated in UoA and externally validated within the core group of participating laboratories. The RTI calibrants were also distributed to other interested laboratories, and to the laboratories participating in the NORMAN indoor dust CT. A high number of datasets were received with RT information for many compounds as external validation sets and the applicability domain (AD) of the models were studied. A wealth of information is hidden in these datasets and there is a need for deeper evaluation of these results to provide useful information on the use of RT/RTI for suspect/non-target screening and comparability of RT information between laboratories. The ultimate aim is to provide NORMAN members with a tool for the prediction of RTs of their suspect and unknown compounds.</p> <p>Expected outcomes for 2017:</p> <ul style="list-style-type: none"> - Expanded QSRR models for RTI prediction and use in suspect screening and retrospective analysis of a large number of potential emerging substances. - A guidance document for the mobile phase preparation and LC system maintenance. - An open source program to predict RT and RTI (already started under JPA 2016). - Incorporation of the NORMAN RTI system into suspect screening as well as open libraries, databases and MetFrag.
<p>Open access software platform - Solutions and workflows in environmental analysis</p>	<p>Open access software platform – Solutions and workflows in environmental analysis (Leader: TUM (t.letzel@tum.de) in collaboration with LfU (Manfred.Sengl@lfu.bayern.de) and EI (slobodnik@ei.sk).</p> <p>The analytical solutions and workflows for structural elucidation and for analytical databases developed by vendors are typically locked for outside users. On the other hand, there is a growing community of research institutions developing open-access tools for 'Non-target and Suspects Screening', but often they are programmed as single solutions to a specific analytical question (mainly without linkage to each other). At the SWEMSA16 workshop organised by TUM in November 2016, participants agreed on the need to continue the discussion among vendors and open-access tools providers, analytical and informational scientists in order to start / pursue actions to link software programs and existing databases leading to analysis workflows which can be used for free by the analytical community. Overall, the aim of this action is to create an Open Access Platform fitting the requirement of current analytical workflows and to be used by the European community in environmental analysis.</p>

	<p>For that purpose a one-day SWEMSA seminar will be organised by TUM in 2017 back-to-back to the “Database workshop” (to be confirmed). Among others, concrete actions will be discussed in order to link FOR-IDENT functions to the EMPODAT database modules.</p>
Passive sampling Cross-Working Group Activity (PS CWA)	<p>Passive sampling Cross-Working Group Activity (activity coordinated by NIVA Jan.Allan@niva.no and IRSTEA cecile.miege@irstea.fr).</p> <p>The work of the Passive sampling Cross-Working group activity in 2017 will focus on the following main tasks:</p> <p>Task 1: Finalisation of the module for PS data input into EMPODAT (continuation of the work started in 2016 for the development of a data management system – to be included in EMPODAT – for recording passive sampling data with all information necessary for a transparent estimation of a freely dissolved contaminant concentration in water.</p> <p>Task 2: Networking of national <i>in situ</i> demonstration exercises for the monitoring of bioaccumulable WFD substances in marine and continental waters, combining PS and biota.</p> <p>The AQUAREF network in France is coordinating a large national validation exercise to undertake monitoring of hydrophobic WFD priority substances with passive sampling conducted alongside biota monitoring (gammarus, fish and mussels).</p> <p>Considering the role NORMAN has played in recent years in promoting the discussion on how to apply passive sampling in regulatory monitoring under WFD, there is an opportunity for NORMAN to contribute to this study by extending it from national to a European context by networking scientists from countries who plan to perform similar studies in the near future.</p> <p>The study will take place in France in 2018–2019. The proposed activity for 2017 is to identify participants and jointly design the study. The work in 2017 will therefore focus on:</p> <ul style="list-style-type: none"> - Defining how such a study can be organised at a Europe-wide level; - Assessing whether external funding from national environmental agencies can be obtained in countries other than France; - Formulating objectives for the study with passive sampling devices from the scientific and future regulatory monitoring perspective; - Discussing the design of the biota-based study with the experts involved in this work in France; - Designing the study, bearing in mind how the data obtained will be analysed (statistically) (types of water bodies for investigation in relationship to hydromorphology, ecology, pollution level, required biota species and numbers of samples from each species etc.). <p>It is planned to:</p> <ul style="list-style-type: none"> - Deliver by June 2017 a roadmap for a Europe-wide biota monitoring-passive sampling study; - Hold a working group meeting in the second part of 2017 to finalise the design of this activity.
AW-1	<p>Workshop N° 1: “NORMAN Database” (Leader : EI slobodnik@ei.sk and UBA jan.koschorreck@uba.de)</p> <p>NORMAN EMPODAT is expanding rapidly with new database modules, which include most recently ECOTOX, passive sampling, bioassays, indoor environment and antibiotic resistance/crop uptake. In parallel, new modules related to non-target screening are being developed such as Suspect List Exchange, Industrial Chemicals List Exchange and the NORMAN non-target screening data exchange platform. Tens of thousands of NORMAN substances should also be searchable using an Open Access Software Platform, and each of them should be accompanied by updated information on the physico-chemical properties, hazard properties, classification, most relevant matrices to measure them in the environment, etc. The objectives and outcomes of this workshop are:</p> <ul style="list-style-type: none"> - Harmonisation of reporting formats among various existing database systems in order to support pan-European (and global) sharing of data on emerging substances. - Review of the structure of the NORMAN database system. - Minimum requirements for quality of the data to be accepted by the NORMAN database system. - Terms for future cooperation with IPCheM. - Discussion involving database managers, IT experts and regulators.
AW-2	<p>Workshop N° 2: “Integrated Exposure and Effects Assessment (Leader IVM marja.lamoree@ivm.vu.nl) (activity organised as part of the activities of WG-3 on EDA)</p> <p>A two-day workshop on Integrated Exposure and Effects Assessment will be organised by IVM in collaboration with US EPA and NIES-Japan, under the umbrella of the NORMAN network. The aim is to bring together the experience gained in the US (http://pubs.usgs.gov/of/2015/1113/),</p>

	<p>Asia and Europe regarding the deployment of target / non-target screening and biological monitoring tools for integrated exposure and effect assessment. This workshop should also offer the opportunity for the definition of recommendations for WFD Review in 2019.</p> <p>The workshop will take place at VU, Amsterdam on 11-12 April 2017 http://www.norman-network.net/?q=node/289</p> <p>NOTE: This workshop is already part of the Joint Programme of Activities of 2016.</p>
AW-3	<p>Workshop N° 3: “4th International Environmental Specimen Bank Group (IESB) conference”</p> <p>Following the previous meetings organised by the International Environmental Specimen Bank Group (IESB) (Nancy, 2015; Shanghai, 2013, Berlin, 2010, Matsuyama, 2009 and Charleston, 2005) the 4th edition will be held at the Plentzia Marine Station (PiE-UPV/EHU) Plentzia (Biscay, Basque Country).</p> <p>The tentative dates for this workshop are during the first fortnight of October 2017.</p> <p>The scope of this meeting is to present specimen banks, this workshop will have to work hard to get to a shared the latest achievements regarding the long-term preservation and bioanalysis of environmental specimens and the management of the banks.</p> <p>Due to the large variety of visions and missions in the existing vision for tackling the use and the values of the specimen banks. Among other topics we may suggest validation of the retrospective analysis, implementation of common management criteria, support for environmental regulation, etc.</p> <p>No financial contribution of the NORMAN Association is requested for this activity.</p>
EG-1	<p>Discussion group on the systematic use of environmental monitoring data for the identification of substances of potential regulatory concern (Leader: NORMAN Association Steering Committee in collaboration with ECHA)</p> <p>As a follow-up action of the NORMAN 10th anniversary workshop, it is proposed to set up a Discussion Group with ECHA on the systematic use of environmental monitoring data for the identification of substances of potential regulatory concern.</p> <p>The objectives and outcomes of this Discussion Group are:</p> <ul style="list-style-type: none"> - Mutual understanding of what data are available (and needed) at ECHA and at NORMAN. - Use of NORMAN monitoring data by ECHA and MSCAs for e.g. identifying substances of potential concern and for PBT assessment. - Definition of the concept for a case study on ‘Screening environmental samples for a large number of industrial chemicals – identified in collaboration with ECHA – in a representative set of environmental samples’. - Definition of a mechanism to report newly detected substances to EU authorities. - The discussion group would aim to involve NORMAN SC members and other interested members, ECHA, DG ENV and EEA.
ILS-1 (workshop)	<p>Collaborative Trial (CT) on Non-target and suspect screening methods (GC-MS and LC-HR-MS(MS)) for organic substances in an indoor environmental dust sample (as part of the activities of WG-6 on Emerging substances in the Indoor Environment and the Cross-Working Group Activity “Non-target screening”). (Leader NILU PernillaBohlin.Nizzetto@nilu.no in collaboration with EI slobodnik@ei.sk).</p> <ul style="list-style-type: none"> - Planned activity for JPA 2017: organisation of a workshop during which the participants will discuss the results and make final arrangements to prepare a joint publication. The workshop will be organised as a satellite event at the ICCE 2017 conference http://icce2017.org on 18-22 June 2017 in Oslo, back-to-back with the workshop for the discussion of the results of the ‘Collaborative Trial for the analysis of polar compounds’ (see ILS-2 below).
ILS-2 (workshop)	<p>Collaborative Trial for the analysis of polar compounds (Coordinated by KWR Patrick.Bauerlein@kwrwater.nl in collaboration with TUM - Thomas Letzel t.letzel@tum.de and University of Athens Nikos Thomaidis ntho@chem.uoa.gr).</p> <p>The number of polar organic compounds encountered in the environment is increasing. A Collaborative Trial for analysis of polar compounds organised as part of JPA 2016. The purpose of this trial was to compare the different analytical techniques that are used in various laboratories within the NORMAN network and outside. This trial was necessary to evaluate the techniques that are currently used and detect the assets and drawbacks of each method.</p> <p>Planned activity for JPA 2017: organisation of a workshop during which the participants will discuss the results and evaluate / interpret the data. The workshop will be organised as a satellite event at the ICCE2017 conference http://icce2017.org on 18-22 June 2017 in Oslo, back-to-back with the</p>

	workshop for the discussion of the results of the 'Collaborative Trial on Non-target and suspect screening methods in dust' (see ILS-1 above).
ILS-3	<p>Organisation of interlaboratory studies on perfluorinated compounds, alkylphenols, hormones, PAH, beta blockers, cypermethrin, erythromycin, carbamazepin and HBCDD. (Leader IWW as full in-kind contribution; David Schwesig d.schwesig@iww-online.de).</p> <p>Together with AQS BW, IWW Water Centre will organise interlaboratory studies on these compounds in drinking or surface water.</p> <p>The ILS on PFC, hormones and cypermethrin will be carried out during the first quarter of 2017.</p> <p>The ILS on Alkylphenols and the other mentioned rounds are scheduled for the 2nd half of 2017.</p> <p>More technical details and the dispatch dates can be found at www.iswa.uni-stuttgart.de/ch/aqs/index.en.html</p> <p>The ILS will be carried out as a proficiency test anyway within Germany (participation of approx. 30 laboratories expected), but IWW proposes to extend these ILS towards non-German members (NORMAN members and beyond) as an in-kind contribution for 2017.</p> <p>A comprehensive report on the outcome of the interlaboratory studies will be published on the NORMAN website.</p>
ILS-4	<p>Interlaboratory study on non-target screening techniques with LC-HRMS.</p> <p>Together with Aqualab-Zuid, Het Waterlaboratorium, Vitens, Waterlaboratorium Noord and Rijkswaterstaat, KWR will organise an interlaboratory study for non-target screening in ground, surface and drinking water. Some known compounds will be added to the samples. The ILS will be carried out during the 2nd half of 2017.</p> <p>This study will evaluate the suitability of the LC-HR-MS screening in terms of e.g. the number of features (accurate mass/RT combination), limit of detection of the added compounds (per compound and per laboratory), the mass accuracy and the deviation of the relative retention time.</p> <p>The ILS will be carried out as a proficiency test anyway within The Netherlands (participation of 5–10 laboratories expected), but it is proposed to extend this ILS towards non-Dutch members (NORMAN members and beyond). KWR proposes this ILS as an in-kind contribution for 2017.</p>

The proposed budget will be revised by the Steering Committee in May 2017. All approved scientific activities will be implemented, independently of the revision of the budget.