

PROJECT REFERENCE	PROJECT ACRONYM	PROJECT TITLE	KEYWORDS	ABSTRACT	PI SURNAME	PI NAME	PI FULL SURNAME	RESEARCH INSTITUTION	DEPARTMENT	CENTRE	START DATE	END DATE	FUNDING AGENCY	COUNTRY
	ECA	ECONOMICS OF AQUATIC FOODWEBS		<p>THE ECA PROJECT AIMS TO FIND OUT HOW DIFFERENT ENVIRONMENTAL FACTORS INFLUENCE ON THE FISH PRODUCTION ALONG THE BALTIC SEA COASTAL WATERS, TO DEVELOP ECOSYSTEM NETWORK MODELING TO ESTIMATE THE CONTRIBUTION OF NUTRIENT LOADING (BOTTOM-UP CONTROL OF THE FOOD-WEB) AS WELL AS FISH AND FISHERIES TOP-DOWN CONTROL ON THE ECOSYSTEM FUNCTION AND FISH PRODUCTION IN THE ARCHIPELAGO SEA IN THE BALTIC SEA. THE PROJECT WILL ALSO CONTRIBUTE TO THE MODELING OF THE ECONOMICS OF THE TARGETED FISHING AS A LIVELIHOOD AND AS A METHOD FOR ECOSYSTEM MANAGEMENT AND RESTORATION.</p> <p>WE VALUE OF THE ECOSYSTEM SERVICES PROVIDED BY AQUATIC ENVIRONMENTS AND FOODWEBS FOR THE SOCIETY FROM IMPROVING OR CONSERVING WATER QUALITY. WE ANALYZE THE MONETARY USE AND NON-USE VALUES PEOPLE PLACE ON THE ECOSYSTEM SERVICES PROVIDED BY THE AQUATIC ECOSYSTEM, SUCH AS WATER-BASED RECREATION, BIODIVERSITY, HABITAT FOR FISH REPRODUCTION AND NURSING, AND FISHING. TO DETERMINE WHERE THE LARGEST BENEFITS TO THE SOCIETY CAN BE ACCRUED BY IMPROVING OR CONSERVING THE SERVICES WE INVESTIGATE HOW VALUATIONS ARE AFFECTED BY SOCIO-DEMOGRAPHIC AND SPATIAL ISSUES. FURTHERMORE, WE CREATE TOOLS AND GUIDELINES TO GENERALIZE THE RESULTS OF CASE SPECIFIC VALUATION STUDIES TO NEW DECISION SITUATIONS.</p> <p>TO DATE, THE FUNDAMENTAL TRADE-OFF BETWEEN ENVIRONMENTAL DAMAGE FROM PHOSPHORUS ACCUMULATING IN WATER ECOSYSTEMS AND PROFITS FROM AGRICULTURAL PRODUCTION HAS NOT BEEN ANALYZED IN A COMPREHENSIVE WAY. ECA WILL FILL THE GAP BY (1) PRODUCING AN ECOLOGICAL-ECONOMIC MODEL THAT ACCOUNTS FOR PHOSPHORUS ACCUMULATION IN AGRICULTURAL LAND, ITS IMPACT ON THE RELEASE OF PHOSPHORUS INTO SURROUNDING WATER ECOSYSTEMS, THE ACCUMULATION OF PHOSPHORUS IN THE WATER ECOSYSTEM, AND THE ENVIRONMENTAL DAMAGE CAUSED BY WATER ECOSYSTEM DEGRADATION AND BY (2) ANALYZING EFFICIENT POLICIES TO CONTROL AGRICULTURAL PHOSPHORUS LOADING IN THIS SETTING.</p> <p>THE CHOICE AND SETTING OF AN INSTRUMENT TO IMPLEMENT THE OPTIMAL STRATEGY OF BIOMANIPULATION, HAVE TO OUR KNOWLEDGE NOT BEEN CONSIDERED IN PREVIOUS LITERATURE. THE ECONOMIC LITERATURE ON FISHERY REGULATION FOCUSES ON PREVENTING THE OVEREXPLOITATION OF FISH STOCKS. HERE THE QUESTION INSTEAD IS ONE OF HOW TO PROVIDE INCENTIVES FOR FISHERS TO PRODUCE A PUBLIC GOOD THROUGH HARVESTING SPECIES THAT HAVE NO COMMERCIAL VALUE. IN THE ABSENCE OF REGULATION FISHERS WILL NOT TARGET SUCH SPECIES.</p> <p>WE EXAMINE HOW TO PROVIDE INCENTIVES FOR FISHERS TO PROVIDE THIS PUBLIC GOOD, AND HOW FISHERS' STRATEGIC BEHAVIOUR AFFECTS THE INCENTIVE MECHANISMS AND THE TOTAL COST OF BIOMANIPULATION. FURTHER, THERE ARE TWO ALTERNATIVE WAYS TO INCENTIVIZE THE FISHING ACTIVITY NEEDED FOR STOCK ABATEMENT: TO STEER LOCAL PROFESSIONAL FISHERS TO TARGET FISHING EFFORTS TO DESIRED NON-COMMERCIAL SPECIES OR – IN THE ABSENCE OF LOCAL PROFESSIONALS – TO CONTRACT FISHERS SPECIALIZED IN TARGETED FISHERIES CURRENTLY OPERATING ELSEWHERE.</p>	LINROOS	MARKO J.		UNIVERSITY OF HELSINKI	DEPARTMENT OF ECONOMICS AND MANAGEMENT		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND
	URCA	THE QUALITY AND QUANTITY OF RUNOFF WATER IN RELATION TO LAND USE IN URBANISED CATCHMENTS		<p>LAND USE IN URBANISED CATCHMENTS HAS A DECISIVE IMPACT ON THE WELL BEING OF AQUATIC ECOSYSTEMS. IN DENSELY POPULATED URBAN AREAS HUMAN ACTIVITY HAS A PRONOUNCED EFFECT ON THE HYDROLOGICAL CYCLE. WHEREAS IN PRISTINE REGIONS MOST RUNOFF WATER FROM RAIN AND SNOWMELT IS ABSORBED BY SOIL, HIGHLY EFFICIENT SEWER SYSTEMS IN URBANISED CATCHMENTS WILL CARRY RUNOFF WATER TO THE NEAREST WATERWAYS.</p> <p>HIGH-EFFICIENCY DRYING HAS REDUCED THE ABILITY OF SOIL TO FILTER AND CLEAN NUTRIENTS AND OTHER CONTAMINANTS FROM RUNOFF WATER, WHICH EXPOSES ADJACENT WATERWAYS BOTH TO EUTROPHICATION AND TO OTHER WATER QUALITY PROBLEMS. THE IMPACTS OF DIFFUSE POLLUTION ON THE STATE OF WATERWAYS HAVE BEEN EXTENSIVELY RESEARCHED FROM AN AGRICULTURE POINT OF VIEW, BUT LESS IS KNOWN ABOUT THE CORRESPONDING EFFECTS OF URBAN DEVELOPMENT.</p> <p>THE URCA PROJECT IS INTENDED TO EXPLORE THE IMPACTS OF URBANISATION ON THE CHARACTERISTICS OF RUNOFF WATER. THIS WILL BE DONE BY BUILDING AUTOMATIC RUNOFF STATIONS AT TEN CATCHMENT SITES ALONG AN URBAN-RURAL GRADIENT IN HELSINKI AND LAHTI, WHICH WILL ALLOW A DETAILED ANALYSIS OF THE QUALITY OF WATER IN URBAN SEWERS, INCLUDING MEASUREMENTS OF NUTRIENT AND HEAVY METAL CONCENTRATIONS, PRECIPITATION LEVELS AT THESE SITES WILL BE DETERMINED USING DUAL-RADAR POLARISATION OBSERVATIONS.</p> <p>TERRAIN FEATURES WILL BE MAPPED USING LIDAR ELEVATION DATA AS WELL AS AERIAL PHOTOGRAPHY AND URBAN PLANNING MAPS TO IDENTIFY IMPERVIOUS AREAS. THESE AREAS, SUCH AS BUILDING ROOFS AND PARKING LOTS, HAVE A DECISIVE IMPACT ON THE FORMATION OF RUNOFF WATER FROM URBAN AREAS. THE DATA OBTAINED FROM THESE MEASUREMENTS WILL BE USED TO DEVELOP A MATHEMATICAL MODEL TO DESCRIBE THE HYDROLOGY IN THESE AREAS. USING THIS MODEL, THE RESULTS CAN BE GENERALISED BEYOND THE RESEARCH AREAS AND TO NEW CHANGING CLIMATE CONDITIONS.</p>	SETÄLÄ	HEIKKI		UNIVERSITY OF HELSINKI	DEPARTMENT OF ENVIRONMENTAL SCIENCES		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND
	ADPI	ADVANCED OXIDATION PROCESSES IN INDUSTRIAL WASTEWATER TREATMENT (CLEAN WATER CONSORTIUM, ADPI)		<p>ADPI PROJECT AIMS AT PROVIDING NOVEL INFORMATION ON THE USE OF ADVANCED OXIDATION PROCESSES IN THE TREATMENT OF INDUSTRIAL WASTEWATERS (ORIGINATING FROM FOOD AND PHARMACEUTICAL INDUSTRIES). ESPECIALLY, THE FOCUS WILL BE IN WASTEWATERS WITH HIGH TOC AND TOXIC COMPOUND LOADINGS AND THEREFORE THE FINAL GOAL IS TO DEVELOP AN ECOCOEFFICIENT HYBRID PROCESS BASED ON PHOTOCATALYSIS AND CVAO. SUSTAINABILITY ASSESSMENT ANALYSIS WILL BE USED AS A TOOL TO EVALUATE THE PROCESS DURING THE WHOLE RESEARCH AND THE STUDY ON THE HEALTH EFFECTS OF ORGANIC POLLUTANTS WILL BE IN A CENTRAL ROLE.</p>	LASSI	ULLA MARIANNE		UNIVERSITY OF OULU	DEPARTMENT OF CHEMISTRY		01-06-12	31-12-16	ACADEMY OF FINLAND	FINLAND
	TERLA	IMPACTS OF TERRESTRIAL ORGANIC MATTER LOADING ON LAKE FOOD WEBS AND HUMAN HEALTH – CHALLENGES FOR ENVIRONMENTAL REGULATION (TERLA CONSORTIUM)		<p>BOREAL AQUATIC ECOSYSTEMS WITH FORESTED AND PEATLAND CATCHMENTS NATURALLY RECEIVE HIGH LOADS OF TERRESTRIAL ORGANIC MATTER. MOREOVER, CATCHMENT MANAGEMENT OF CARBON RICH SOILS, PARTICULARLY FORESTRY OPERATIONS AND PEAT MINING, MAY GREATLY ADD TO THE LOAD OF ORGANIC HUMIC MATTER. TO SOME EXTENT, BACTERIA AND MICROBIAL FOOD WEBS IN LAKES CAN TAKE NUTRITIONAL ADVANTAGE OF TERRESTRIAL ORGANIC CARBON. BACTERIA, HOWEVER, ARE POOR-QUALITY FOOD FOR UPPER TROPHIC LEVELS.</p> <p>ORGANIC MATTER DEPOSITION ALSO IMPACTS ON LAKE PHYTOPLANKTON, WHICH PRODUCE POLYUNSATURATED FATTY ACIDS THAT ARE BENEFICIAL FOR THE WHOLE FOOD WEB AS WELL AS FOR HUMAN HEALTH AND THAT ARE NOT PRODUCED BY BACTERIA. ORGANIC MATTER AND SEDIMENT THAT IS WASHED INTO WATERWAYS MAY ALSO CONTAIN MERCURY, WHICH IN ANOXIC CONDITIONS IS EASILY METHYLATED INTO POISONOUS METHYL MERCURY.</p> <p>TERLA IS A MULTIDISCIPLINARY RESEARCH CONSORTIUM AIMED AT ESTABLISHING THE EFFECTS OF TERRESTRIAL ORGANIC CARBON ON LAKE FOOD WEBS – PHYTOPLANKTON, BACTERIA, ZOOPLANKTON, FISH – AS WELL AS ON THE HEALTH OF FISH-CONSUMING HUMANS. QUESTIONS ASSOCIATED WITH ORGANIC CARBON DEPOSITION ARE ADDRESSED USING THE METHODS AND EXPERTISE OF LIMNOLOGY AND ECOTOXICOLOGY, FORESTRY, PUBLIC HEALTH AND ENVIRONMENTAL LAW.</p> <p>A FURTHER AIM IS TO PRODUCE SCIENTIFIC EVIDENCE THAT WILL PROVIDE A MORE ACCURATE ASSESSMENT OF THE EFFECTIVENESS OF ENVIRONMENTAL REGULATION. THE RESEARCH METHODS INCLUDE MODELLING OF TERRESTRIAL ORGANIC CARBON LOADING, ANALYSIS OF DATABASES COMPILED BY DIFFERENT RESEARCH INSTITUTES, FOOD WEB EXPERIMENTS, MEASUREMENTS AND ANALYSIS OF SELECTED VARIABLES AT DIFFERENT LEVELS OF THE FOOD WEB AND IN FISH-CONSUMING HUMANS, AS WELL AS A LEGAL DOGMATIC APPROACH.</p> <p>THE CONSORTIUM INVOLVES THREE PROJECTS:</p>	KANKAALA	PAULA		UNIVERSITY OF EASTERN FINLAND	DEPARTMENT OF BIOLOGY		01-06-12	31-12-16	ACADEMY OF FINLAND	FINLAND
	AQVI	MANAGEMENT OF GROUNDWATER RESOURCES UNDER CONFLICTING INTERESTS: BALANCING BETWEEN HUMAN WATER USE AND ECOSYSTEM NEEDS (AQVI CONSORTIUM)		<p>ADEQUATE GROUNDWATER QUANTITY AND QUALITY ARE CRUCIAL BOTH TO SECURING THE WATER SUPPLY AND TO MAINTAINING NATURAL DIVERSITY. GROUNDWATER IS OFTEN A HIGH-QUALITY GROUNDWATER. THESE ECOSYSTEMS ARE LIABLE TO SUFFER IF THE QUANTITY OF GROUNDWATER IS AFFECTED BY LAND USE OR WATER EXTRACTION.</p> <p>THE AQVI PROJECT IS A MULTIDISCIPLINARY CONSORTIUM INTENDED TO RESEARCH GROUNDWATER FROM A HYDROLOGY, ECOLOGY AND ENVIRONMENTAL SOCIOLOGY POINT OF VIEW. ITS MAIN FOCUS IS ON THE EFFECTS OF WETLAND DRAINAGE ON GROUNDWATER RESOURCES AND ON POSSIBILITIES TO REHABILITATE WETLANDS AND IN THIS WAY TO RESTORE WATER SOURCES. VARIOUS MODELS ARE USED TO COMPUTE GROUNDWATER FLOWS AND THE EFFECTS OF LAND USE AND CLIMATE CHANGE. A SPECIAL AREA OF INTEREST IS TO RESEARCH THE SOCIO-COOPERATION/RESEARCH-AQUATIC QUALITY RUNOFF-TO URBANISED-URCA.</p>	KLOVE	BJÖRN		UNIVERSITY OF OULU	DEPARTMENT OF PROCESS AND ENVIRONMENTAL ENGINEERING		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND
	RnFFECT	ASSESSING RESTORATION EFFECTIVENESS IN SEDIMENT-STRESSED FOREST STREAMS: BIODIVERSITY MEETS HYDROLOGY (RnFFECT CONSORTIUM)			MUOTKA	TIMO		UNIVERSITY OF OULU	DEPARTMENT OF BIOLOGY		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND

TEAQUILA	FLUXES OF TERMINAL ELECTRON ACCEPTORS: LINKING HUMAN DISTURBANCE TO THE HEALTH OF AQUATIC ECOSYSTEMS (TEAQUILA CONSORTIUM)	IN THE TEAQUILA PROJECT WE WILL FOCUS ON IMPROVING THE STATE OF AQUATIC ECOSYSTEMS BY CONTROLLING THE LOAD OF TERMINAL ELECTRON ACCEPTORS (TEAS), BESIDES DECREASING NUTRIENT LOADING. THE ANALYSIS OF COUPLED BIOGEOCHEMICAL CYCLES ADDRESSES THE SCIENTIFIC BASIS FOR SOME OF TODAY'S MAJOR ENVIRONMENTAL PROBLEMS, SUCH AS EUTROPHICATION, GREENHOUSE GAS FLUXES AND HARMFUL SUBSTANCES. BESIDES THE SOURCE AND MAGNITUDE OF C, N AND P LOADING, WE WILL FOCUS ON MIN, FE AND S LOADING FROM HEADWATER CATCHMENTS DOWNSTREAM TO THE BALTIC SEA. BY COUPLING OF MAJOR ELEMENT CYCLES TO LESS STUDIED, YET EQUALLY IMPORTANT TRACE ELEMENT CYCLES, OUR PROJECT WILL PRODUCE URGENTLY NEEDED INFORMATION ON HOW TO MANAGE FRESHWATER ECOSYSTEMS IN CHANGING CLIMATE AND UNDER VARIABLE LAND USE PATTERNS (FOREST, PEATLAND, AGRICULTURAL LAND, URBAN AREA) BY SIMULTANEOUSLY MAINTAINING BEST POSSIBLE ECOSYSTEM SERVICES. THE EUTROPHICATION OF AQUATIC SYSTEMS IS COMMONLY LINKED TO EXTERNAL LOADING AND GENERALLY MANIPULATED BY DECREASING NUTRIENT LOADING. MORE VARIABLE WEATHER PATTERNS IN FUTURE CLIMATE, HOWEVER, SIGNIFICANTLY AFFECT SEASONAL RUNOFF PATTERNS, SIMULTANEOUSLY REGULATING REDOX CONDITIONS IN THE CATCHMENT AND THUS THE FILL OF TEAS. OUR RESEARCH WILL ALSO ADDRESS THE INTERACTIONS OF THE FILL OF TEAS WITH THE FILL OF OTHER MAJOR ELEMENT CYCLES AND WITH THE FILL OF OTHER TRACE ELEMENT CYCLES. THE RECENT SCIENTIFIC, POLITICAL AND LEGAL DEBATE OVER THE PROS AND CONS OF FINNISH PEAT PRODUCTION CAN BE INTERPRETED AS A SIGN OF REGULATORY FAILURE. IN PARTICULAR, EROSION AND SEDIMENTATION OF PARTICULATE ORGANIC MATTER FROM PEAT PRODUCTION SITES TO DOWNSTREAM LAKES HAVE IN MANY CASES CAUSED LOCAL DISTRUST AND CONFLICTS BETWEEN COMMUNITIES AND PEAT INDUSTRY. BESIDES ECOLOGICAL IMPACTS, ORGANIC MATTER LOADING DIMINISHES RECREATIONAL VALUE OF WATERS AND REDUCES PROPERTY PRICES IN THE SHORE AREAS.	KORTELAINEIN	PIRKKO	FINNISH ENVIRONMENT INSTITUTE		01-06-12	31-12-16	ACADEMY OF FINLAND	FINLAND	
	WATER MANAGEMENT AND PEAT PRODUCTION: FROM THE RELEVANT FACTS TO EFFECTIVE NORMS	OBJECTIVE THE PROJECT IS DIVIDED INTO FOLLOWING OPERATIONAL RESEARCH TASKS: A. TO STUDY THE LEACHING OF ORGANIC MATERIAL FROM PEAT PRODUCTION SITES TO SURFACE WATERS B. TO EXAMINE THE CONDITIONS OF LOCAL ACCEPTANCE FOR DEFINING AND SOLVING PROBLEMS IN THE MANAGEMENT OF PEAT PRODUCTION AND ANALYSE THE ROLE AND IMPLICATIONS OF LOCAL KNOWLEDGE IN CONSTRUCTING A RELEVANT UNDERSTANDING OF PEAT PRODUCTION AND ITS IMPACTS TO WATERSHEDS C. TO ANALYSE CURRENT LEGISLATION AND ITS IMPLEMENTATION PRACTICES, IN PARTICULAR TO WHAT EXTENT THEY CAPTURE RELEVANT SCIENTIFIC AND LOCAL KNOWLEDGE OF THE WATER IMPACTS OF PEAT PRODUCTION D. FINALLY, THE PROJECT AIMS TO IDENTIFY IMPROVEMENTS TO THE REGULATION OF PEAT PRODUCTION AND THE PROTECTION OF THE AQUATIC ENVIRONMENT. A) WATER IMPACTS OF PEAT PRODUCTION THIS STUDY AIMS AT RECONSIDERING AND QUANTIFYING THE EFFECT OF PEAT MINING, ON ORGANIC LOADING AND SEDIMENTATION IN RECEIVING WATERS. INSTEAD OF MONITORING MATERIAL FLUXES, WE FOCUS ON THE REALISED SITUATION AFTER CONTINUED PEAT MINING ACTIVITIES, WHICH ALSO ENABLES CONNECTION TO OTHER SUBPROJECTS IN THE CASE STUDIES. OUR GOAL IS TO VERIFY IF ORGANIC LOADING FROM PEAT MINING HAS LED TO INCREASED SEDIMENTATION, WHICH IS THE MAIN ISSUE OF CONTROVERSY IN MOST CASES OF PEAT MINING IMPACTS. THIS EFFECT WILL BE MAPPED IN DETAIL IN CASE STUDIES WITH A VIEW TO PROVIDING SCIENCE TO OTHER SUBPROJECTS. IN ADDITION, WE AIM AT QUANTIFYING CARBON, NITROGEN AND PHOSPHORUS POOLS OF THE REDUCED CATCHMENT.	MAÄRTTA	TAPIO	UNIVERSITY OF EASTERN FINLAND	DEPARTMENT OF LAW		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND
CONPAT	AQUATIC CONTAMINANTS – PATHWAYS, HEALTH RISKS AND MANAGEMENT (CONPAT CONSORTIUM)	THE CONPAT RESEARCH CONSORTIUM HAS BEEN SET UP TO INVESTIGATE THE SUSTAINABLE USE OF AQUATIC RESOURCES AND TO EXPLORE WAYS OF SECURING THE FUTURE SUPPLY OF DRINKING WATER, WITH SPECIAL REFERENCE TO HUMAN HEALTH RISKS. THE AIM IS TO IDENTIFY INTERDISCIPLINARY LINKS BETWEEN THE MICROBIOLOGICAL AND CHEMICAL CONTAMINATION OF NATURAL AND BUILT WATER SYSTEMS, THE QUANTITATIVE ASSESSMENT OF WATER.	MIETTINEN	ILAKA	NATIONAL INSTITUTE FOR HEALTH AND WELFARE (THL)		01-09-12	31-12-16	ACADEMY OF FINLAND	FINLAND	
	WATER AS SOCIAL AND CULTURAL SPACE: CHANGING VALUES AND REPRESENTATIONS	THE INTERDISCIPLINARY PARADIGM OF THE PROJECT EMPHASISSES THE SHARED CONCEPT OF THE INTERCONNECTIONS BETWEEN THE CENTRAL CATEGORIES OF WATER, SPACE, AND TECHNOLOGY. WHILE CONCEPTUALISING WATER RELATED TO THE FRAMEWORKS OF SPACE AND TECHNOLOGY, WE AIM TO IDENTIFY THE COGNITIVE ASPECTS AND THE SPATIAL ORDER OF WATER. THE FOCUS ON THE "SPATIAL IMAGINATION" ENTAILS THE THESIS THAT OUR PERCEPTION OF WATER IS A CULTURAL AND SOCIAL CONSTRUCTION WHICH IS PRODUCED, IMAGINED, AND CONSEQUENTLY, INTERLUNED WITH POLITICAL AND ECONOMIC POWER. THE INTERCONNECTIONS OF WATER AND SPACE SHOULD BE TESTED WITHIN THE CONCEPTUAL TRIAD OF PERCEIVED, IMAGINED AND LIVED SPACE IN ORDER TO CONTRIBUTE TO THE FURTHER PERSPECTIVES FOR THE INTERDISCIPLINARY FIELD OF WATER RESEARCH. THE PROJECT IS BASED ON INTER.	ROSENHOLM	ARJA	UNIVERSITY OF TAMPERE	SCHOOL OF LANGUAGE, TRANSLATION AND LITERARY STUDIES		01-08-12	31-12-16	ACADEMY OF FINLAND	FINLAND
AQUADIGM	THE FUNCTION AND MANAGEMENT OF AQUATIC ECOSYSTEMS IN THE CHANGING ENVIRONMENT: THE EFFECTS OF PARADIGM SHIFTS (AQUADIGM CONSORTIUM)	CLIMATE MODELS PREDICT CONSIDERABLE CHANGES IN THE CLIMATOLOGICAL CONDITIONS. IN THE RESEARCH OF AQUATIC ECOSYSTEMS, THE FORTHCOMING CHANGES REQUIRE THOROUGH RE-EVALUATION OF MANY LONG-LASTING PARADIGMS. CONSEQUENTLY, THE VALIDITY OF VARIOUS LAKE MANAGEMENT METHODS MUST BE RE-EVALUATED. MOREOVER, PARADIGMS, DECISION-MAKING AND ENVIRONMENTAL ATTITUDES OF THE PUBLIC HAVE CONSEQUENCES FOR THE RESEARCH AND MANAGEMENT OF AQUATIC RESOURCES AND MAY DELAY OR PREVENT THE APPLICATION OF NEW RESEARCH RESULTS IN MANAGEMENT. THE AQUADIGM CONSORTIUM STUDIES THE VALIDITY OF STRONG PARADIGMS ON THE FUNCTIONING AND MANAGEMENT OF LAKE ECOSYSTEMS. THE OBJECTIVES ARE TO EVALUATE THE PARADIGMS ON THE IMPACTS OF CLIMATE CHANGE IN REGULATING INTERNAL PHOSPHORUS (P) LOADING (SUBPROJECT 1, J. HORPPILA) AND THE EFFECTIVENESS OF ARTIFICIAL AERATION AS A MANAGEMENT TOOL (SUBPROJECT 2, J. HORPPILA). ADDITIONALLY, THE BARRIERS OF POSSIBLE PARADIGM SHIFTS (SUBPROJECT 3, I. MASSA) AND CONSEQUENCES FOR MANAGEMENT AND DECISION-MAKING IN THE FUTURE (SUBPROJECT 4, P. TAPIO) ARE STUDIED. THE CONSORTIUM FORMS A NEW INTERDISCIPLINARY RESEARCH GROUP, WHICH ADDS MUTUAL UNDERSTANDING WITHIN DIFFERENT FIELDS OF RESEARCH. IN SUBPROJECT 3, THE FACTS FORMING THE FOOTING OF THE CURRENT PARADIGMS ARE DETERMINED AND INFORMATION NEEDED FOR PARADIGM SHIFTS IS IDENTIFIED.	HORPPILA	JUKKA	UNIVERSITY OF HELSINKI	DEPARTMENT OF ENVIRONMENTAL SCIENCES		01-06-12	31-12-16	ACADEMY OF FINLAND	FINLAND
ENIUJUST	ENVIRONMENTAL JUSTICE AND ECOSYSTEM SERVICES: ACCESS, EQUITY AND PARTICIPATION IN THE USE AND MANAGEMENT OF AQUATIC ENVIRONMENTS IN THE HELSINKI REGION (ENIUJUST CONSORTIUM)		FELTONEN	LASSE	FINNISH ENVIRONMENT INSTITUTE		01-10-12	31-12-16	ACADEMY OF FINLAND	FINLAND	
	WATER SAFETY MANAGEMENT	MEASUREMENT OF TRACE CHEMICALS FROM WATER MATRIX IS A DEMANDING TASK AND IT IS TRADITIONALLY CARRIED OUT WITH SPECIFIC LABORATORY ANALYSIS METHODS. THE MAJOR GOAL OF WATSAMAN PROJECT IS TO DEVELOP A SENSOR TECHNOLOGY FOR DETECTION AND CONTINUOUS MONITORING OF HAZARDOUS ORGANIC AND INORGANIC CHEMICALS PRESENT IN WATERS AND TO CLARIFY THE SUITABILITY OF SPECIALIZED LABORATORY INSTRUMENTS FOR CONTROLLING THE WATER PROCESSING TASKS. THE DETECTION SECTION INCLUDES TECHNOLOGY DEVELOPMENT FOR DETECTION OF NOVEL HAZARDOUS CHEMICALS AND TESTING OF SPECIALIZED INSTRUMENTS TO WATER PROCESSING PROCEDURES. CONTINUOUS MONITORING REQUIRES METHOD DEVELOPMENT TO PHASE TRANSFER REACTION FROM LIQUID PHASE TO THE GAS PHASE WHERE THE ACTUAL MEASURING OCCURS. THESE DEVELOPED METHODS AND TECHNIQUES ARE TESTED BOTH IN LABORATORY AND WATERWORKS ENVIRONMENTS. THE RESULTS OF THE PROJECT AND THE MARKET POTENTIAL WILL BE EVALUATED SEPARATELY BY AN EXTERNAL EXPERT. COLLABORATION AND COORDINATION OF THE PROJECT IS PERFORMED BY THE LABORATORY OF APPLIED ENVIRONMENTAL CHEMISTRY.	SILLANPÄÄ	MIKA	LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-01-11	31-12-13	TEKES	FINLAND	
	NOVEL ICT APPLICATIONS IN ZOEBENTHOS MEASUREMENTS FOR RISK ASSESSMENT OF CHEMICALS	THERE IS CURRENTLY A RISING WORLDWIDE NEED FOR IMPACT ASSESSMENT OF HAZARDOUS SUBSTANCES IN AQUATIC ECOSYSTEMS. THESE ASSESSMENTS ARE RELATED TO TREATMENT OF POLLUTED SEDIMENTS AND IDENTIFICATION AND MONITORING OF POLLUTION. A PRACTICAL PROBLEM ARISES FROM DIFFICULTIES IN DISTINGUISHING CHEMICAL-INDUCED EFFECTS FROM EFFECTS OF OTHER PRESSURES. TRADITIONAL ASSESSMENT RELIES ON MEASUREMENT OF POLLUTANT CONCENTRATIONS, WHICH IS OFTEN INEFFECTIVE AND EXPENSIVE. BENTHIC INVERTEBRATES (ZOEBENTHOS) AS PRIMARY EXPOSURE TARGETS OF CHEMICALS, AND IMPORTANT FOOD ORGANISMS FOR FISH, ARE KEY ORGANISMS IN DETECTION OF TOXIC IMPACTS OF CHEMICALS. THIS PROJECT AIMS AT DEVELOPING NEW COST-EFFICIENT ICT-INNOVATIONS FOR DETECTION, DOCUMENTATION AND INTERPRETATION OF TOXIC IMPACTS OF CHEMICALS IN WATER BODIES. IT ALSO AIMS AT CREATION OF A NATIONAL AND INTERNATIONAL NETWORK OF EXPERTS TO STRENGTHEN TRANSFER OF SUITABLE ICT-TECHNOLOGIES INTO THE AQUATIC ZOEBENTHOS MEASUREMENTS AND THEIR APPLICATIONS IN CHEMICAL RISK ASSESSMENT. THREE SUBPROJECTS WILL BE REALIZED. THESE TRANSFER THE FOLLOWING ICT-INNOVATIONS INTO ZOEBENTHOS MEASUREMENTS: 1) DIGITAL IDENTIFICATION OF MORPHOLOGICAL ABERRATIONS VIA COMPUTER VISION AND	KARJALAINEN	ANNA	FINNISH ENVIRONMENT INSTITUTE (EIKE)		01-10-11	31-12-13	TEKES	FINLAND	
	NOVEL ICT APPLICATIONS IN ZOEBENTHOS MEASUREMENTS FOR RISK ASSESSMENT OF CHEMICALS	THERE IS CURRENTLY A RISING WORLDWIDE NEED FOR IMPACT ASSESSMENT OF HAZARDOUS SUBSTANCES IN AQUATIC ECOSYSTEMS. THESE ASSESSMENTS ARE RELATED TO TREATMENT OF POLLUTED SEDIMENTS AND IDENTIFICATION AND MONITORING OF POLLUTION. A PRACTICAL PROBLEM ARISES FROM DIFFICULTIES IN DISTINGUISHING CHEMICAL-INDUCED EFFECTS FROM EFFECTS OF OTHER PRESSURES. TRADITIONAL ASSESSMENT RELIES ON MEASUREMENT OF POLLUTANT CONCENTRATIONS, WHICH IS OFTEN INEFFECTIVE AND EXPENSIVE. BENTHIC INVERTEBRATES (ZOEBENTHOS) AS PRIMARY EXPOSURE TARGETS OF CHEMICALS, AND IMPORTANT FOOD ORGANISMS FOR FISH, ARE KEY ORGANISMS IN DETECTION OF TOXIC IMPACTS OF CHEMICALS. THIS PROJECT AIMS AT DEVELOPING NEW COST-EFFICIENT ICT-INNOVATIONS FOR DETECTION, DOCUMENTATION AND INTERPRETATION OF TOXIC IMPACTS OF CHEMICALS IN WATER BODIES. IT ALSO AIMS AT CREATION OF A NATIONAL AND INTERNATIONAL NETWORK OF EXPERTS TO STRENGTHEN TRANSFER OF SUITABLE ICT-TECHNOLOGIES INTO THE AQUATIC ZOEBENTHOS MEASUREMENTS AND THEIR APPLICATIONS IN CHEMICAL RISK ASSESSMENT. THREE SUBPROJECTS WILL BE REALIZED. THESE TRANSFER THE FOLLOWING ICT-INNOVATIONS INTO ZOEBENTHOS MEASUREMENTS: 1) DIGITAL IDENTIFICATION OF MORPHOLOGICAL ABERRATIONS VIA COMPUTER VISION AND	HÄMÄLÄINEN	HEIKKI	UNIVERSITY OF JYVÄSKYLÄ		01-10-11	31-12-13	TEKES	FINLAND	
	RAPID AND COST-EFFECTIVE METHODS FOR DETECTION OF ENVIRONMENTALLY HARMFUL COMPOUNDS FROM WASTE WATER	ACCORDING TO EU REGULATIONS THE ENTERPRISES MUST BE AWARE OF THE QUALITY OF THEIR WASTEWATERS. THIS INCLUDES KNOWLEDGE ON ELEMENTS OR COMPOUNDS WHOSE ENVIRONMENTAL RELEASE IS LIMITED OR FORBIDDEN BY EU. THE PARTNERS FROM THE ENTERPRISES ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE AND FRIENDLIER FOR THE ENVIRONMENT. THE CORPORATE PARTNERS ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE. THE AIM OF THE PROJECT IS TO DEVELOP RAPID, EASY-TO-USE AND COST-EFFECTIVE MONITORING METHODS FOR ENVIRONMENTAL ESTROGENS AND TOXIC COMPOUNDS IN INDUSTRIAL PROCESS WATER AND COMMUNAL WASTE WATERS. THE MONITORING METHODS WOULD BE BASED ON OPTICAL SPECTROSCOPY AND BIOSENSOR TECHNOLOGY. INDUSTRIAL MARKETS FOR BIOSENSORS ARE INCREASING. THE ADVANTAGE OF BIOSENSORS IS SPEED, SENSITIVITY AND SELECTIVITY. APPLICATION OF THESE TECHNOLOGIES CAN BE USED ECONOMICALLY TO PRODUCE ENVIRONMENTAL RISKS AND IMPACT STUDIES. THE PROJECT WILL SIGNIFICANTLY INCREASE THE SCIENTIFIC CAPACITY IN MEASURING HARMFUL SUBSTANCES IN THE ENVIRONMENT. ON THE BASIS OF THE RESULTS IT IS POSSIBLE TO BUILD EQUIPMENT TO QUICKLY MEASURE CONTAMINANTS IN THE WASTE WATER TREATMENT PLANTS. THE PROJECT CREATES INTERNATIONAL COOPERATION BETWEEN RESEARCH INSTITUTES AND PRIVATE BUSINESSES FOR THE INSTITUTE AND ENTERPRISES TO TAKE PART IN JUMP	RÄTY	JÄRKKO	UNIVERSITY OF OULU		01-08-11	30-11-13	TEKES	FINLAND	

	HYBRID MEMBRANE PROCESS FOR WATER TREATMENT	THE GOAL OF THE PROJECT IS TO DEVELOP A NOVEL, ACTIVE AND SUSTAINABLE HYBRID WASTEWATER TREATMENT PROCESS THAT REMOVES SIMULTANEOUSLY HEAVY METALS, ARSENIC, NUTRIENTS AND ORGANIC COMPOUNDS FROM WATER STREAMS. THE PROCESS WILL COMBINE MEMBRANE TECHNOLOGY, PHOTOCATALYSIS AND ADSORPTION. THE DEVELOPED MEMBRANE BASED HYBRID UNIT HAS SELF-CLEANING PROPERTIES, LONG TERM STABILITY AND IS ALSO ABLE TO RECOVER NUTRIENTS FROM WASTEWATERS AS VALUABLE SIDE PRODUCTS. REACTIVE MEMBRANES WILL BE DEVELOPED BY ADDING PHOTOCATALYSTS ON MEMBRANE SURFACES E.G. BY ALD-TECHNIQUE. WHEN SELECTING THE MATERIALS TO BE STUDIED THE UTILIZATION OF INDUSTRIAL SIDE PRODUCTS WILL BE TAKEN INTO ACCOUNT.	KEISU	RITTA		UNIVERSITY OF OULU		09-01-11	31-08-14	TEKES	FINLAND
	HYBRID MEMBRANE PROCESS FOR WATER TREATMENT	HYBRID BASED WATER TREATMENT SYSTEM IS DEVELOPED FOR WATERS CONTAINING HEAVY METALS, ARSENIC, NUTRIENTS, AND ORGANIC COMPOUNDS. MEMBRANE TECHNOLOGY, PHOTOCATALYSIS, AND ADSORPTION ARE APPLIED IN THIS PROCESS. THE GOAL IS TO DEPOSIT NOBLE METALS AND PHOTOCATALYTIC THIN FILMS BY ALD-TECHNIQUE ONTO SUBSTRATES WHICH ARE USED IN WATER PURIFICATION. PHOTOCATALYTIC THIN FILM IMPROVES THE WATER TREATMENT AND PREVENTS THE FOULING OF THE SUBSTRATE. THE TASK IS TO OPTIMIZE THE STRUCTURE AND THE GRAIN SIZE OF THE CATALYTIC THIN FILM FOR EACH PROCESS TO BE PURIFIED.	CAMERON	DAVID		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		1.9.2011	30-08-14	TEKES	FINLAND
	NANO- AND MICROCELLULOSE BASED MATERIALS FOR WATER TREATMENT APPLICATIONS	THE FOCUS OF THIS JOINT PROJECT IS TO PRODUCE AND ASSESS THE APPLICABILITY AND POTENTIAL OF NOVEL FUNCTIONALIZED NANO- AND MICROCELLULOSE-BASED MATERIALS FOR WATER TREATMENT APPLICATIONS. THE COMPETITIVENESS OF THESE CELLULOSE MATERIALS ARISES FROM THEIR IMPROVED SUSTAINABILITY AND PERFORMANCE IN TERMS OF SELECTIVITY AND REMOVAL EFFICIENCY COMPARED WITH THE PRESENT SYNTHETIC CHEMICALS. THE PRODUCED CELLULOSE MATERIALS ARE TARGETED TO ENHANCE MATERIAL AND ENERGY EFFICIENCY OF WATER TREATMENT APPLICATIONS BY INCREASING THE SOLID CONTENT OF FLOCCULATED SLUDGES (I.E. PROMOTING SLUDGE INCINERATION AND DECREASING THEIR TRANSPORTATION COSTS), IMPROVING THE SELECTIVITY AND EFFICIENCY OF POLLUTE REMOVAL AND PROMOTING THE USE OF BIO-BASED GREEN CHEMICALS.	NINIMÄKI	JOUKO		UNIVERSITY OF OULU		07-01-11	31-12-13	TEKES	FINLAND
	NANO- AND MICROCELLULOSE BASED MATERIALS FOR WATER TREATMENT APPLICATIONS	THE FOCUS OF THIS JOINT PROJECT IS TO PRODUCE AND ASSESS THE APPLICABILITY AND POTENTIAL OF NOVEL FUNCTIONALIZED NANO- AND MICROCELLULOSE-BASED MATERIALS FOR WATER TREATMENT APPLICATIONS. THE COMPETITIVENESS OF THESE CELLULOSE MATERIALS ARISES FROM THEIR IMPROVED SUSTAINABILITY AND PERFORMANCE IN TERMS OF SELECTIVITY AND REMOVAL EFFICIENCY COMPARED WITH THE PRESENT SYNTHETIC CHEMICALS. THE PRODUCED CELLULOSE MATERIALS ARE TARGETED TO ENHANCE MATERIAL AND ENERGY EFFICIENCY OF WATER TREATMENT APPLICATIONS BY INCREASING THE SOLID CONTENT OF FLOCCULATED SLUDGES (I.E. PROMOTING SLUDGE INCINERATION AND DECREASING THEIR TRANSPORTATION COSTS), IMPROVING THE SELECTIVITY AND EFFICIENCY OF POLLUTE REMOVAL AND PROMOTING THE USE OF BIO-BASED GREEN CHEMICALS.	SILLANPÄÄ	MIKA		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-07-11	31-12-13	TEKES	FINLAND
	LOW-COST, FAST, MINATURISED SOLUTIONS FOR WATER QUALITY ASSESSMENT	THE WATERHP PROJECT WILL DEVELOP NOVEL, LOW-COST, MINATURISED FAST AND SPECIFIC TEST CONCEPTS FOR WATER QUALITY ASSESSMENT BY COMBINING MANUFACTURING TECHNOLOGIES - PRINTING AND INJECTION MOULDING - WITH BIOLOGICAL AND CHEMICAL DETECTION OF CERTAIN IMPURITIES AND POLLUTANTS FROM WATER. FOR ORGANIC POLLUTANTS EASY-TO-USE, CHEAP AND RAPID TEST DEVICES HAVE BEEN NONEXISTENT, SO FAR AND IT IS CLEARLY SEEN THAT THIS APPLICATION AREA HAS A GROWING IMPORTANCE. ASSAY METHODS WHICH CAN BE USED IN FIELD CONDITIONS AND WHICH ALLOW RAPID, INEXPENSIVE, FREQUENT ANALYSIS OF WATER QUALITY WOULD BE USEFUL FOR QUALITY MAINTENANCE, PROTECTION AND EVALUATION PURPOSES. IN WATERHP NOVEL, MULTIDISCIPLINARY TECHNOLOGIES WILL BE APPLIED FOR WATER DIAGNOSTICS. IN PARTICULAR, THE FOCUS WILL BE IN MASS MANUFACTURING INJECTION MOULDING AND PRINTING, WHICH ENABLE THE LOW-COST MASS MANUFACTURING OF DISPOSABLE PLASTIC CHIPS WITH INTEGRATED SAMPLING, DOSING AND ANALYSING OPERATIONS. SPECIFICALLY THE MAIN AIM IS TO DEVELOP NEW SOLUTIONS FOR TWO APPLICATIONS: 1) DETECTION OF TOXIC CYANOBACTERIA AND CYANOBACTERIAL METABOLITES (TOXINS, ODOURUS COMPOUNDS) 2) DETECTION OF PHENOLIC COMPOUNDS (ENDOCRINE DISRUPTING AND OTHER TOXIC PHENOLIC METABOLITES) IN THE GENERAL PUBLIC WATER SUPPLY AND IN THE ENVIRONMENT.	HAKOLA	LISA		TECHNICAL RESEARCH CENTER OF FINLAND (VTT)		01-06-11	31-05-13	TEKES	FINLAND
	VETCOMBO	A WELL-RECOGNIZED PROBLEM IS THAT ENVIRONMENTAL DATA, WHICH IS WIDELY GATHERED BY PUBLIC SECTOR, IS POORLY UTILIZED BY PRIVATE ENTERPRISES. REASONS FOR POOR UTILIZATION ARE DIFFICULTIES IN FINDING BUSINESS MODELS BASED ON PUBLIC ENVIRONMENTAL DATA, NON-STANDARDIZED DATA MANAGEMENT, AND A LACK OF OPERATIONS MODEL, WHICH COMBINE AND BENEFIT ALL PARTIES. DEVELOPMENTS IN SENSORS AND MEASURING TECHNOLOGY, AS WELL AS NEW APPLICATIONS AND TECHNOLOGIES IN COMMUNICATIONS CREATE NEW MODES OF DATA GATHERING, AND NEW PRODUCTS AND SERVICES IN THE FIELD OF WATER. SERVICE SYSTEM MEANS AN AGGREGATE OF SERVICES, WHERE EACH ACTOR BENEFITS FROM EACH OTHER. IN THE SERVICE SYSTEM EACH ACTOR PROVIDES BEST-SUITED SERVICES, AND BENEFITS FROM THE SERVICES PROVIDED BY THE OTHERS. ACTORS IN THE SERVICE SYSTEM INCLUDE PUBLIC SECTOR, ENTERPRISE SECTOR, THIRD SECTOR, MEDIA AND THE GENERAL PUBLIC. IN VETCOMBO-PROJECT, WE 1) PROMOTE MORE EFFICIENT USE AND UTILIZATION OF PUBLIC ENVIRONMENTAL DATA IN BUSINESS OPERATIONS, 2) STUDY HOW SERVICE SYSTEMS, BRINGING DIFFERENT ACTORS TOGETHER, CAN BE UTILIZED IN ENVIRONMENTAL MONITORING AND 3) DEMONSTRATE HOW SERVICE DESIGN CAN BE UTILIZED IN THE DEVELOPMENT OF SERVICES PROVIDED BY PUBLIC AND PRIVATE SECTORS.	KAURESDAL	TIMO		UNIVERSITY OF HELSINKI		01-08-11	31-12-13	TEKES	FINLAND
	NOVEL TOOLS FOR REAL-TIME MEASUREMENT OF EARLY STAGE MEMBRANE FOULING	MEMBRANE FILTRATION IS INCREASING TECHNOLOGY IN SEPARATION/PURIFICATION. DESALINATION AND WATER REUSE MARKETS ARE EXPECTED TO GROW SIGNIFICANTLY IN NEAR FUTURE. UNFORTUNATELY, FOULING IS THE MAIN PROBLEM IN MEMBRANE FILTRATION. IT IS DESIRABLE TO DEVELOP A METHOD THAT CAN DETECT, IN REAL TIME, THE EARLIEST INTERACTIONS BETWEEN FOULANTS AND MEMBRANE MATERIALS DURING THE FORMATION OF FOULING LAYERS, SO THAT REMEDIAL MEASURES, SUCH AS MEMBRANE CLEANING OR REPLACEMENT, CAN BE MORE EFFICIENTLY IMPLEMENTED. THE AIM OF THE PROJECT IS TO DEVELOP NOVEL MEASUREMENT METHODS FOR REAL TIME DETECTION OF EARLY STAGE MEMBRANE FOULING. THE MOST SUITABLE METHODS FOR ROBUST AND REAL TIME INDICATION AND CHARACTERISATION OF FOULING LAYER SEEM TO BE: ULTRASOUND MONITORING, UTDR/UFDR, IR, PRESSURE DROP, AND ELECTRICAL PROPERTIES THE PROJECT WILL BE CARRIED OUT IN CO-OPERATION WITH VTT AND LUT.	JUSSI GRÖNROOS	ANTTI		TECHNICAL RESEARCH CENTER OF FINLAND (VTT)		1.8.2011	31-07-14	TEKES	FINLAND
	NOVEL TOOLS FOR REAL-TIME MEASUREMENT OF EARLY STAGE MEMBRANE FOULING	MEMBRANE FILTRATION IS INCREASING TECHNOLOGY IN SEPARATION/PURIFICATION. DESALINATION AND WATER REUSE MARKETS ARE EXPECTED TO GROW SIGNIFICANTLY IN NEAR FUTURE. UNFORTUNATELY, FOULING IS THE MAIN PROBLEM IN MEMBRANE FILTRATION. IT IS DESIRABLE TO DEVELOP A METHOD THAT CAN DETECT, IN REAL TIME, THE EARLIEST INTERACTIONS BETWEEN FOULANTS AND MEMBRANE MATERIALS DURING THE FORMATION OF FOULING LAYERS, SO THAT REMEDIAL MEASURES, SUCH AS MEMBRANE CLEANING OR REPLACEMENT, CAN BE MORE EFFICIENTLY IMPLEMENTED. THE AIM OF THE PROJECT IS TO DEVELOP NOVEL MEASUREMENT METHODS FOR REAL TIME DETECTION OF EARLY STAGE MEMBRANE FOULING. THE MOST SUITABLE METHODS FOR ROBUST AND REAL TIME INDICATION AND CHARACTERISATION OF FOULING LAYER SEEM TO BE: ULTRASOUND MONITORING, UTDR/UFDR, IR, PRESSURE DROP, AND ELECTRICAL PROPERTIES THE PROJECT WILL BE CARRIED OUT IN CO-OPERATION WITH VTT AND LUT.	KALLIOMEN	MARI		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-08-11	31-07-14	TEKES	FINLAND
	EFFECTIVE SEWER CONDITION MANAGEMENT USING ONLINE SENSOR INFORMATION	OPTIMIZED GAUGE-RADAR ADJUSTED PRECIPITATION ESTIMATES WILL BE PROVIDED FOR REALIZING THE ENVIRONMENTAL INFORMATION NEEDED IN THE SEWER MODEL. THE AIM OF THE RESEARCH AT FMI IS DEVELOPMENT OF ALGORITHMS AND SOFTWARES FOR REAL TIME DIAGNOSIS OF MEASUREMENT ERRORS INHERENT IN QUANTITATIVE PRECIPITATION ESTIMATES (QPE) FROM GAUGES AND RADAR. THE ERROR MODEL WILL BE A FUNCTION OF THE STATE OF MEASURING SENSORS, DURATION-AREA DOMAIN AND THE STRUCTURE OF PRECIPITATION. THE ERROR (OR ACCURACY) MODEL WILL IMPLICATE ADAPTIVELY IN REAL TIME THE BEST WAY OF INTEGRATING GAUGE AND RADAR MEASUREMENTS RESULTING TO THE BEST ESTIMATE QPE IN A GENERAL CASE, INDEPENDENTLY OF THE TEST REGION.	KOISTINEN	JARMO		FINNISH METEOROLOGICAL INSTITUTE		01-07-11	30-06-14	TEKES	FINLAND
	EFFECTIVE SEWER CONDITION MANAGEMENT USING ONLINE SENSOR INFORMATION	THE GOAL OF EFESUS PROJECT IS TO DEVELOP METHODS FOR PRIORITISING RENOVATIONS OF DIFFERENT SEWER AREAS AND TO ENHANCE COST-EFFICIENCY OF RENOVATIONS. IN THE PROJECT, THE NEED OF RENOVATION WILL BE ASSESSED USING DATA ON NETWORK CONDITION AND MAINTENANCE TOGETHER WITH DATA FROM ENVIRONMENTAL MEASUREMENTS. THE WAYS FOR GIVING OPTIMAL AREAL PRECIPITATION ESTIMATION USING A COMBINATION OF WEATHER RADAR AND RAIN GAUGE DATA WILL BE STUDIED IN THE PROJECT. A SOFTWARE TOOL WILL BE DEVELOPED WHICH WILL ENABLE THE PRIORITISATION OF DIFFERENT SEWER AREAS BASED ON THEIR NEED TO BE RENOVATED. ADDITIONALLY, A FEW AREAS WILL BE CONSIDERED MORE CLOSELY AND METHODS WILL BE DEVELOPED FOR PINPOINTING SEWER SEGMENTS FOR RENOVATIONS WITHIN THOSE AREAS. FINALLY, A MULTI-CRITERIA DECISION SUPPORT SYSTEM WILL BE DEVELOPED IN THE PROJECT.	VAHALA	RIKU		AALTO UNIVERSITY FOUNDATION		01-07-11	30-06-14	TEKES	FINLAND
	MERCURY FREE AND AUTOMATED ON-LINE TRACE METAL ANALYZATOR	INDUSTRIAL OPERATORS MUST BE AWARE OF THE QUALITY OF WASTE WATER BASED ON FUTURE REGULATIONS. MOREOVER IN SOCIETY, THERE IS A NEED IN GENERAL TO KNOW WHERE AND WHAT KIND OF COMPOUNDS INTO THE ENVIRONMENT, AND WHAT IS THEIR IMPACT. TRADITIONAL LABORATORY BASED METHODS ARE USED TO DETERMINE LOW METAL CONTENTS ALTHOUGH INDUSTRY HAS STARTED TO USE MODERN ON-LINE MEASUREMENTS FOR VARIOUS DIFFERENT PARAMETERS LIKE PH. THE AIM OF THIS WORK IS TO FURTHER DEVELOP NOVEL AND RAPID ON-LINE METHODS FOR MEASUREMENTS OF LOW METAL CONTENTS AND ESPECIALLY FOCUS TO DEVELOP NEW BUSINESS OPPORTUNITIES FOR ON-LINE MEASUREMENTS. COMMERCIALIZATION OF EFFORTS SHOULD BE TO SERVE ITS PURPOSE AS WELL AS POSSIBLE AND CREATE NEW BUSINESS POTENTIAL FOR DEVELOPED MEASUREMENT INSTRUMENT. THERE IS CLEAR NEED TOWARDS ON-LINE MEASUREMENT INSTRUMENT TO DETERMINE LOW METAL CONCENTRATIONS. PROJECT HAS ESTABLISHED A GOOD COLLABORATION TOGETHER WITH PROFESSIONALS IN VARIOUS FIELDS OF EXPERTISE.	RÄTY	JARKKO		UNIVERSITY OF OULU		01-01-13	31-12-14	TEKES	FINLAND
	RESEARCH OF GREEN CHEMICAL ENGINEERING IN SOUTH CARELIAN REGION	THE AIM OF THIS PROJECT IS TO STUDY THE PRODUCTION HYDROGEN WITH PHOTOCATALYTIC HYDROGEN GENERATION REACTION ON VISIBLE LIGHT RANGE AND TO DEVELOP A TECHNOLOGY WHICH CAN BE APPLIED IN INDUSTRIAL HYDROGEN GENERATION PROCESS. THE PROJECT WILL BE DONE WITH THE COLLABORATION OF THE PARTICIPATING RESEARCH GROUPS, INCLUDING UNIVERSITIES, RESEARCH INSTITUTES AND COMPANIES. THE RESEARCH GROUPS HAVE ESPECIALLY KNOWLEDGE CONCERNING THE PROCESS OF PHOTOCATALYTIC HYDROGEN GENERATION REACTION. IN ADDITION TO HYDROGEN GENERATION STUDY, THE APPLICATION TO BE STUDIED IS USING PHOTOCATALYTIC MATERIALS AS ADDITIONAL OXIDATION METHOD IN WATER TREATMENT. THE PROJECT COVERS INVESTIGATIONS ON NANOSIZED MATERIAL PREPARATION, NANOSIZED PARTICLE PRODUCTION PROCESS CONTROL, EQUIPMENT DEVELOPMENT, HYDROGEN ENERGY STORAGE, WATER TREATMENT STUDIES, AND COMMERCIALIZATION OF DEVELOPED NANOTECHNOLOGY. IT IS EXPECTED TO ACHIEVE BREAKTHROUGH ON PHOTOCATALYTIC HYDROGEN INDUSTRIALIZATION IN VISIBLE LIGHT AND PROMOTE THE TECHNOLOGY OF PHOTOCATALYTIC HYDROGEN GENERATION AND PHOTOCATALYTIC WATER TREATMENT.	LOUHI-KULTANEN	MARIJATTA		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-01-13	31-12-15	TEKES	FINLAND
	DEVELOPMENT OF MONITORING SYSTEM FOR WATER SAFETY	DIFFERENT ENVIRONMENTAL RISKS AROUND US HAVE INCREASED RECENT YEARS AND CONTROLLING AND ANALYZING OF THESE RISKS IS MORE AND MORE CHALLENGING: NEEDED FUNCTIONS ARE NORMALLY MANUAL AND TIME-CONSUMING. ONLINE MONITORING WOULD BE MUCH MORE ECONOMICAL AND EFFICIENT WAY TO REDUCE DIFFERENT RISKS. IN THIS PROJECT PURPOSE IS TO BUILD AND APPLY PILOT SCALE WATER PURIFICATION SYSTEMS FOR REAL TIME MONITORING OF DIFFERENT PARAMETERS (LIKE PH, DISSOLVED OXYGEN, CONDUCTIVITY ETC.) ON SURFACE WATERS OR WASTEWATERS. DIFFERENT WATER PURIFICATION PROCESSES CAN BE OPTIMIZED AND CONNECTED TO REAL ENVIRONMENTS. FOLLOWING DATA CONTINUOUSLY GIVES POSSIBILITY TO OBSERVE DIFFERENT FAILURES EARLY ENOUGH. COMMERCIALIZATION STUDY FOR THE ONLINE MONITORING ENVIRONMENT WILL BE ALSO DONE DURING THE PROJECT.	SILLANPÄÄ	MIKA		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-04-12	30-06-14	TEKES	FINLAND

	ON-LINE MONITORING CONCEPT IN INTERNATIONAL RESEARCH COLLABORATION	NEED FOR THE ONLINE MONITORING OF DIFFERENT ENVIRONMENTS HAS INCREASED IN RECENT YEARS BECAUSE OF THE DIFFERENT RISKS RELATED TO SAFETY, EXTREME WEATHER CONDITIONS AND MORE STRICT LEGISLATION FOR DIFFERENT ENVIRONMENTAL PARAMETERS. AIM OF THIS PROJECT IS TO BUILD PILOT SCALE MONITORING SYSTEMS TOGETHER WITH SWEDISH PARTNER UTILIZING TOMOVADE DATA COLLECTING PLATFORM. THUS, PROJECT WILL ALSO ENHANCE INTERNATIONAL COLLABORATION BETWEEN RESEARCH ORGANIZATIONS WORKING IN ENVIRONMENTAL RESEARCH FIELD.	SILLANPÄÄ	MIRA		JAPPEENRANTA UNIVERSITY OF TECHNOLOGY		01-01-13	31-12-14	TEKES	FINLAND
	RAPID AND COST-EFFECTIVE METHODS FOR DETECTION OF ENVIRONMENTALLY HARMFUL COMPOUNDS FROM WASTE WATER	ACCORDING TO EU REGULATIONS THE ENTERPRISES MUST BE AWARE OF THE QUALITY OF THEIR WASTEWATERS. THIS INCLUDES KNOWLEDGE ON ELEMENTS OR COMPOUNDS WHOSE ENVIRONMENTAL RELEASE IS LIMITED OR FORBIDDEN BY EU. THE PARTNERS FROM THE ENTERPRISES ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE AND FRIENDLER FOR THE ENVIRONMENT. THE CORPORATE PARTNERS ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE. THE AIM OF THE PROJECT IS TO DEVELOP RAPID, EASY-TO-USE AND COST-EFFECTIVE MONITORING METHODS FOR ENVIRONMENTAL ESTROGENS AND TOXIC COMPOUNDS IN INDUSTRIAL PROCESS WATER AND COMMUNAL WASTE WATERS. THE MONITORING METHODS WOULD BE BASED ON OPTICAL SPECTROSCOPY AND BIOSENSOR TECHNOLOGY. INDUSTRIAL MARKETS FOR BIOSENSORS ARE INCREASING. THE ADVANTAGE OF BIOSENSORS IS SPEED, SENSITIVITY AND SELECTIVITY. APPLICATION OF THESE TECHNOLOGIES CAN BE USED ECONOMICALLY TO PRODUCE ENVIRONMENTAL ANALYSES AND IMPACT STUDIES. THE PROJECT WILL SIGNIFICANTLY INCREASE THE SCIENTIFIC CAPACITY IN MEASURING HARMFUL SUBSTANCES IN THE ENVIRONMENT. ON THE BASIS OF THE RESULTS IT IS POSSIBLE TO BUILD EQUIPMENT TO QUICKLY MEASURE CONTAMINANTS IN THE WASTE WATER TREATMENT PLANTS. THE PROJECT CREATES	KROGERUS	KIRSTI		FINNISH ENVIRONMENTAL INSTITUTE		01-09-11	30-11-13	TEKES	FINLAND
	RAPID AND COST-EFFECTIVE METHODS FOR DETECTION OF ENVIRONMENTALLY HARMFUL COMPOUNDS FROM WASTE WATER	ACCORDING TO EU REGULATIONS THE ENTERPRISES MUST BE AWARE OF THE QUALITY OF THEIR WASTEWATERS. THIS INCLUDES KNOWLEDGE ON ELEMENTS OR COMPOUNDS WHOSE ENVIRONMENTAL RELEASE IS LIMITED OR FORBIDDEN BY EU. THE PARTNERS FROM THE ENTERPRISES ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE AND FRIENDLER FOR THE ENVIRONMENT. THE CORPORATE PARTNERS ARE ALSO EAGER TO MONITOR AND DEVELOP THE PROCESSES MORE EFFECTIVE. THE AIM OF THE PROJECT IS TO DEVELOP RAPID, EASY-TO-USE AND COST-EFFECTIVE MONITORING METHODS FOR ENVIRONMENTAL ESTROGENS AND TOXIC COMPOUNDS IN INDUSTRIAL PROCESS WATER AND COMMUNAL WASTE WATERS. THE MONITORING METHODS WOULD BE BASED ON OPTICAL SPECTROSCOPY AND BIOSENSOR TECHNOLOGY. INDUSTRIAL MARKETS FOR BIOSENSORS ARE INCREASING. THE ADVANTAGE OF BIOSENSORS IS SPEED, SENSITIVITY AND SELECTIVITY. APPLICATION OF THESE TECHNOLOGIES CAN BE USED ECONOMICALLY TO PRODUCE ENVIRONMENTAL ANALYSES AND IMPACT STUDIES. THE PROJECT WILL SIGNIFICANTLY INCREASE THE SCIENTIFIC CAPACITY IN MEASURING HARMFUL SUBSTANCES IN THE ENVIRONMENT. ON THE BASIS OF THE RESULTS IT IS POSSIBLE TO BUILD EQUIPMENT TO QUICKLY MEASURE CONTAMINANTS IN THE WASTE WATER TREATMENT PLANTS. THE PROJECT CREATES	AKKANEN	JARKKO		UNIVERSITY OF EASTERN FINLAND		01-09-11	30-11-13	TEKES	FINLAND
	LOW-COST, FAST, MINATURISED SOLUTIONS FOR WATER QUALITY ASSESSMENT	THE WATERHP PROJECT WILL DEVELOP NOVEL, LOW-COST, MINATURISED FAST AND SPECIFIC TEST CONCEPTS FOR WATER QUALITY ASSESSMENT BY COMBINING MANUFACTURING TECHNOLOGIES - PRINTING AND INJECTION MOULDING - WITH BIOLOGICAL AND CHEMICAL DETECTION OF CERTAIN IMPURITIES AND POLLUTANTS FROM WATER. FOR ORGANIC POLLUTANTS EASY-TO-USE, CHEAP AND RAPID TEST DEVICES HAVE BEEN NONEXISTENT SO FAR AND IT IS CLEARLY SEEN THAT THIS APPLICATION AREA HAS A GROWING IMPORTANCE. ASSAY METHODS WHICH CAN BE USED IN FIELD CONDITIONS AND WHICH ALLOW RAPID, INEXPENSIVE, FREQUENT ANALYSIS OF WATER QUALITY WOULD BE USEFUL FOR QUALITY MAINTENANCE, PROTECTION AND EVALUATION PURPOSES. IN WATERHP NOVEL, MULTIPURPOSE TECHNOLOGIES WILL BE USED FOR WATER DIAGNOSTICS. IN PARTICULAR, THE FOCUS WILL BE IN MASS-MANUFACTURING INJECTION MOULDING AND PRINTING, WHICH ENABLE THE LOW-COST MASS MANUFACTURING OF DISPOSABLE PLASTIC CHIPS WITH INTEGRATED SAMPLING, DOSING AND ANALYSING OPERATIONS. SPECIFICALLY THE MAIN AIM IS TO DEVELOP NEW SOLUTIONS FOR TWO APPLICATIONS: 1) DETECTION OF TOXIC CYANOBACTERIA AND CYANOBACTERIAL METABOLITES (TOXINS, ODOROUS COMPOUNDS) 2) DETECTION OF PHENOLIC COMPOUNDS (ENDOCRINE DISRUPTING AND OTHER ENDOCRINE-MIMETIC WATERBORN POLLUTANTS) AND THEIR INTERACTION TO SENSCOR AND	SIVONEN	KARINA		UNIVERSITY OF HELSINKI		01-06-11	31-05-13	TEKES	FINLAND
	VETCOMBO	A WELL-RECOGNIZED PROBLEM IS THAT ENVIRONMENTAL DATA, WHICH IS WIDELY GATHERED BY PUBLIC SECTOR, IS POORLY UTILIZED BY PRIVATE ENTERPRISES. REASONS FOR POOR UTILIZATION ARE DIFFICULTIES IN FINDING BUSINESS MODELS BASED ON PUBLIC ENVIRONMENTAL DATA, NON-STANDARDIZED DATA MANAGEMENT, AND A LACK OF OPERATIONS MODEL, WHICH COMBINE AND BENEFIT ALL PARTIES. DEVELOPMENTS IN SENSORS AND MEASURING TECHNOLOGY, AS WELL AS NEW APPLICATIONS AND TECHNOLOGIES IN COMMUNICATIONS CREATE NEW MODES OF DATA GATHERING, AND NEW PRODUCTS AND SERVICES IN THE FIELD OF WATER. SERVICE SYSTEM MEANS AN AGGREGATE OF SERVICES, WHERE EACH ACTOR BENEFITS FROM EACH OTHER. IN THE SERVICE SYSTEM EACH ACTOR PROVIDES BEST-SUITED SERVICES, AND BENEFITS FROM THE SERVICES PROVIDED BY THE OTHERS. ACTORS IN THE SERVICE SYSTEM INCLUDE PUBLIC SECTOR, ENTERPRISE SECTOR, THIRD SECTOR, MEDIA AND THE GENERAL PUBLIC. IN VETCOMBO-PROJECT, WE 1) PROMOTE MORE EFFICIENT USE AND UTILIZATION OF PUBLIC ENVIRONMENTAL DATA IN BUSINESS OPERATIONS, 2) STUDY HOW SERVICE SYSTEMS, BRINGING DIFFERENT ACTORS TOGETHER, CAN BE UTILIZED IN ENVIRONMENTAL MONITORING AND 3) DEMONSTRATE HOW SERVICE DESIGN CAN BE UTILIZED IN THE DEVELOPMENT OF SERVICES PROVIDED BY PUBLIC AND	LAMMI	MIA		AALTO UNIVERSITY FOUNDATION		01-09-11	31-12-13	TEKES	FINLAND
	VETCOMBO	A WELL-RECOGNIZED PROBLEM IS THAT ENVIRONMENTAL DATA, WHICH IS WIDELY GATHERED BY PUBLIC SECTOR, IS POORLY UTILIZED BY PRIVATE ENTERPRISES. REASONS FOR POOR UTILIZATION ARE DIFFICULTIES IN FINDING BUSINESS MODELS BASED ON PUBLIC ENVIRONMENTAL DATA, NON-STANDARDIZED DATA MANAGEMENT, AND A LACK OF OPERATIONS MODEL, WHICH COMBINE AND BENEFIT ALL PARTIES. DEVELOPMENTS IN SENSORS AND MEASURING TECHNOLOGY, AS WELL AS NEW APPLICATIONS AND TECHNOLOGIES IN COMMUNICATIONS CREATE NEW MODES OF DATA GATHERING, AND NEW PRODUCTS AND SERVICES IN THE FIELD OF WATER. SERVICE SYSTEM MEANS AN AGGREGATE OF SERVICES, WHERE EACH ACTOR BENEFITS FROM EACH OTHER. IN THE SERVICE SYSTEM EACH ACTOR PROVIDES BEST-SUITED SERVICES, AND BENEFITS FROM THE SERVICES PROVIDED BY THE OTHERS. ACTORS IN THE SERVICE SYSTEM INCLUDE PUBLIC SECTOR, ENTERPRISE SECTOR, THIRD SECTOR, MEDIA AND THE GENERAL PUBLIC. IN VETCOMBO-PROJECT, WE 1) PROMOTE MORE EFFICIENT USE AND UTILIZATION OF PUBLIC ENVIRONMENTAL DATA IN BUSINESS OPERATIONS, 2) STUDY HOW SERVICE SYSTEMS, BRINGING DIFFERENT ACTORS TOGETHER, CAN BE UTILIZED IN ENVIRONMENTAL MONITORING AND 3) DEMONSTRATE HOW SERVICE DESIGN CAN BE UTILIZED IN THE DEVELOPMENT OF SERVICES PROVIDED BY PUBLIC AND	KARJALAINEN	JUHA		UNIVERSITY OF JYVÄSKYLÄ		01-09-11	31-12-13	TEKES	FINLAND
	VETCOMBO	A WELL-RECOGNIZED PROBLEM IS THAT ENVIRONMENTAL DATA, WHICH IS WIDELY GATHERED BY PUBLIC SECTOR, IS POORLY UTILIZED BY PRIVATE ENTERPRISES. REASONS FOR POOR UTILIZATION ARE DIFFICULTIES IN FINDING BUSINESS MODELS BASED ON PUBLIC ENVIRONMENTAL DATA, NON-STANDARDIZED DATA MANAGEMENT, AND A LACK OF OPERATIONS MODEL, WHICH COMBINE AND BENEFIT ALL PARTIES. DEVELOPMENTS IN SENSORS AND MEASURING TECHNOLOGY, AS WELL AS NEW APPLICATIONS AND TECHNOLOGIES IN COMMUNICATIONS CREATE NEW MODES OF DATA GATHERING, AND NEW PRODUCTS AND SERVICES IN THE FIELD OF WATER. SERVICE SYSTEM MEANS AN AGGREGATE OF SERVICES, WHERE EACH ACTOR BENEFITS FROM EACH OTHER. IN THE SERVICE SYSTEM EACH ACTOR PROVIDES BEST-SUITED SERVICES, AND BENEFITS FROM THE SERVICES PROVIDED BY THE OTHERS. ACTORS IN THE SERVICE SYSTEM INCLUDE PUBLIC SECTOR, ENTERPRISE SECTOR, THIRD SECTOR, MEDIA AND THE GENERAL PUBLIC. IN VETCOMBO-PROJECT, WE 1) PROMOTE MORE EFFICIENT USE AND UTILIZATION OF PUBLIC ENVIRONMENTAL DATA IN BUSINESS OPERATIONS, 2) STUDY HOW SERVICE SYSTEMS, BRINGING DIFFERENT ACTORS TOGETHER, CAN BE UTILIZED IN ENVIRONMENTAL MONITORING AND 3) DEMONSTRATE HOW SERVICE DESIGN CAN BE UTILIZED IN THE DEVELOPMENT OF SERVICES PROVIDED BY PUBLIC AND	ANTTILA	SARU		FINNISH ENVIRONMENTAL INSTITUTE		01-09-11	31-12-13	TEKES	FINLAND
	TOWARDS THE LEADERSHIP IN WATER TECHNOLOGY - PARTNERING IN MEMBRANE TECHNOLOGY BETWEEN SINGAPORE AND FINLAND	THE OBJECTIVE IS TO ENHANCE KNOW-HOW IN SEPARATION TECHNOLOGIES, TO BUILD NETWORKS IN WATER RELATED RESEARCH, AND THE KNOWLEDGE TRANSFER FROM THE LEADING COUNTRY IN WATER MANAGEMENT TECHNOLOGIES, SINGAPORE. THE RESEARCH AND EXCHANGE OF RESEARCHERS AND PHD-STUDENTS IS LED BY VISITING PROFESSOR OF YIT, ASSOCIATE PROFESSOR CHUFIANG TANG FROM NANJANG TECHNOLOGICAL UNIVERSITY. THE TOPICS OF INTEREST COVER PHENOMENA IN MEMBRANE FILTRATION, MEMBRANE MANUFACTURING, AND CHARACTERIZATION AND OPTIMISATION OF MEMBRANE PROPERTIES. THE GOAL IS TO FIND METHODS TO INCREASE PERMEABILITY OF MEMBRANES, TO CONTROL FOULING, AND TO FIND OPTIMAL MEMBRANE STRUCTURES. THE MAIN TARGET IS TO DEVELOP FORWARD OSMOSIS-BASED CONCEPTUAL SOLUTIONS FOR FINNISH BUSINESS LIFE AND INDUSTRY. PROJECT PROMOTES ECO-EFFICIENCY FOR PROCESS WATER HANDLING, INCREASE OF WATER RECYCLING, REDUCTION OF ENERGY, AND BETTER MANAGEMENT OF EMISSIONS IN CHEMICAL INDUSTRY, MINING AND PULP & PAPER MANUFACTURING.	TASKINEN	PEKKA		TECHNICAL RESEARCH CENTER OF FINLAND (VTT)		01-09-10	31-08-15	TEKES	FINLAND
	TRACKING NUCLEIC ACID CONTAINING COMPOUNDS IN WATER ENVIRONMENT	WE WILL DEVELOPE MEASURING METHODS FOR NUCLEIC ACID CONTAINING ANALYTES IN WATER RESOURCES. ANALYTES CAN BE EITHER BIOLOGICAL ORGANISMS OR SYNTHETIC COMPOUNDS ADDED ADVISED OR ACCIDENTALLY TO WATER. THE RAPID AND SENSITIVE MEASUREMENT OF THESE COMPOUNDS CAN BE CONSIDERED AS MEASUREMENT OF WATER QUALITY. MICROFLUIDICS WILL BE UTILIZED IN DEVELOPING A PROTOTYPE DEVICE. AS REFERENCE METHODS, LIQUID CHROMATOGRAPHY METHODS WITH VERY LATEST DETECTION METHODS WILL BE DEVELOPED. EXTENSIVE INTERNATIONAL CO-OPERATION WITH SCIENTIFIC ADVISORS WILL YIELD IN PROOF-OF-CONCEPT ASSAY WITH GLOBAL INTEREST ANALYTES.	VEHNÄNEN	MARRKUS		UNIVERSITY OF TURKU		01-01-10	30-04-13	TEKES	FINLAND