REQUIREMENTS – TENDER OF ONLINE MONITORING SYSTEM (OMS) (THE UTILITIES DIRECTIVE)

1. Introduction

These specifications apply to the Interreg North Sea Region Programme call for tender of a contract for procuring of an Online Monitoring System (OMS) under the Public Procurement Directive (Directive 2004/18) according to the contract notice published on 13th of June in the Official Journal of the European Union/TED (Tenders electronic daily).

The call for tender is completed as a public procedure, and that implies that any person may submit a tender.

A contracting authority is responsible for a completion in compliance with the EU public procurement rules, and that the basic principles of transparency and equal treatment are observed during the procurement procedure. A tenderer must expect that a contracting authority will reject a tender that is defective or faulty. A tenderer bears the risk that its tender is submitted in compliance with the EU public procurement rules.

General description

The system should be made of separate modules and be built as an open source solution/web based. A detailed source code description should be provided together with the system.
For the core design and modules, a testing phase during development and again for the final delivery is foreseen. Also, documentation incl. a user manual and detailed description of the module source codes must be provided by the developer.

a) Basic functionalities; monitoring and system management and communication portal

This section specifies the core database design. The core database should be the backbone of the system and connect to each of the system modules. It must define very detailed user rights (see below) and allow for flexible and user-friendly user management.

The following horizontal functionalities **must** be ensured:

b) Communication portal – to be interlinked with all modules

The communication portal enables secure exchange of information drawn from all modules between relevant bodies (e.g. lead beneficiaries, beneficiaries and programme authorities or among programme authorities). The communication portal must be easily accessible and should serve as the main communication tool for those using the system; to this end it must:

- Support exchange of text messages (in/outbox functionalities), unstructured data (attachments) and structured data (templates of Application Form, Reporting Forms, Project Change forms and potentially others). The communication module must ensure security and confidentiality of data exchanged.

- When beneficiaries are filling out the structured data templates embedded checks and error alerts must be available.

d) Messages

Alerts/error messages – automatic checks must be embedded in the system and alerts/error messages must inform about incorrect or missing data (fields do not match, do not add up, fields not filled out or filled out incorrectly, etc.) to avoid errors:

- obligatory fields are not left empty
- certain fields are filled out correctly (e.g. e-mail contains @ sign, phone number contains country code, some fields contain numbers only)
- some fields match other fields or a sum of some fields is not higher than a third field, etc.
- certain pre-defined criteria are met: e.g. there are at least 3 partners from 3 different countries

e) Link with the CMS

The management of data being transferred from many of the modules in the OMS to the programme website through content management system (CMS) will need to be embedded into the system design. In order to communicate project news and updates the JS needs to ensure that certain project information in the OMS is also visible on the programme website and that the transfer of information between the two systems is provided with relative ease.

Please see appendix 1 for more information about connectivity between the CMS and the OMS,

Additional features of the system (must be able to)

- Track changes – any change done in the system must be traceable and recoverable (it must be possible to see who made a change and when necessary undo it, if needed). Therefore all documents must be archived (no overwriting, always new version/second layer).
- Version comparison tool – it must be possible to compare different versions of stored documents to see what was changed.
- Document library – a document library must be available, where all documents uploaded in the system is available in a certain order (a pre-defined structure).
- Link to the European Commission SFC 2014 – a link to the EU reporting system SFC 2014 must be ensured. The SFC2014's main function is the electronic exchange of information concerning shared Fund management between Member States and the European Commission.

f) Testing

The provider must develop a test plan for the system (module by module) in line with the milestone plan (to be found in the specifications document). Testing should draw on the expertise of the Joint Secretariat (JS) and should include key programme stakeholders that will use the system. Regular testing should form part of the established maintenance programme for the system.

h) Maintenance, assistance and training

Maintenance is a crucial aspect after the development and delivery of the system. The North Sea Region Programme has allocated resources for the yearly maintenance of the delivered system. Potential bidders are asked to deliver an overview of the maintenance which they can deliver and to which costs they can deliver it in accordance with the budget outlined in the specifications document. The maintenance overview should also cover the resources needed to run the delivered system (servers), description of how security and back-up are handled.

The developer must also devise a training plan to ensure that key systems users are trained accordingly and to the relevant degree (using a train the trainer scheme). If necessary, different level seminars and workshops should be arranged to provide system training for key system users and to accommodate training the trainer sessions. In addition, online e-learning and written material should also be made available.

Costs for assistance to system users must be outlined on an annual basis.

2.   Requirements

This is the core of the system. It sets the basis for joining modules. The following functionalities must be provided:

1. **Flexibility and configurability**: The system must allow to exclude certain steps in the workflow if they are not needed (easy switch-on/off of clearly defined steps in the workflow)

2. It must be possible to easily change text in the user interface.

3. It must be possible to make clearly defined individual text fields visible/invisible, readable/writeable. Configuration must be possible based on user rights and project types.

4. Clearly defined individual tables must be sort able.

5. The system must allow the definition of different **project types**. They must be definable by system administrators concerning:

A) Individual input fields (visible/invisible, readable/writable in e.g. application form, checklists),

B) Reports and final reports

6. The system should allow an unlimited number of project types.

7. It must be possible to choose clearly defined calculations (e.g. sum, average, percentage) out of a limited number of operations per global configuration.

8. Constants in calculations must be configurable by global configuration.

      a. E.g. Overhead as percentage of staff costs

9. The system must allow the system administrator to define/change **templates** of reports. The template definition also includes sorting of specific content.

10. It must be possible to generate user defined statistical and other reports at any time.

11. It must be possible to edit generated reports manually.

12. It must be possible to export generated and manually edited reports both to an editable format and to a not editable format.

13. The system must allow reports to contain basic system generated diagrams and graphics. Diagrams and graphics are created with the use of data stored in the application.

14. The application must contain a user rights management system based on groups and roles. It must allow changing the visibility and ability to edit clearly defined individual input fields for selected users

15. It must allow users to create and identify sub-users. Sub-users may have read or read/edit rights.

16. The use of five budget lines must be allowed ("staff costs", "office and administrative expenditure", "travel and accommodation costs", "external expertise and service costs", "equipment expenditure").

17. It must be possible to calculate some budget lines as a percentage from other budget lines (**cost options**) or to enter the values manually. The use of cost options has to be defined in the configuration. The configuration of budget lines or percentage rate has to be assigned to a project type.

18. The number and the name of work packages must be definable both on project level and globally.

19. It must be possible to globally define funding sources and to assign a default funding rate to each of them.

      a. E.g. ERDF amounts and ERDF equivalent for Norwegian partners

20. It must be possible to assign default funding rates to priority axes and partner types.

21. It must be possible to manage funding sources separately.

      a. E.g. Community-, public-, and private funding

22. It must be possible to compare the actual programme progress with the values in these tables using aggregated project data.

23. Amounts of money are to be rounded to a wholly amount. All amounts must be always rounded down. Rounding up is not allowed in any case.

24. The currency in the system is the EURO

25. Export of data: The system must allow exporting each selected field.

26. Consistency and integrity of data must be ensured.

27. Manual saving of filled in fields must be possible. A possibility to save manually must be provided on each input form.

28. Automatic periodic saving of filled in fields should be ensured.

29. The session must time out after a defined period (Session timeout after 30 min without user activity).

30. The remaining time until the session timeout must be visible for the user.

31. Before the session times out a warning message must be shown to the user saying "The session will time out soon, please don't forget to save your data!"

32. The system must ensure the following data and consistency checks:

      a. Check the data type of the input

      b. Check if mandatory fields have been filled out including text fields and selection lists

      c. Check if mandatory attachments have been provided

      d. Pattern checks (e.g. email address, international area codes)

      e. Minimum and maximum length of input

      f. Cross-check of different fields (e.g. value, sum, bigger, smaller, average, percentage, date, duration)

      g. Check of logical sequences (if not covered by the workflow)

33. All data and consistency checks can lead to one of two events:

1) No possibility to continue

2) Request for double check.

34. According to user rights it must be possible to add exceptions to clearly defined individual checks for specific projects. All exceptions must be logged by the system (person, time/date of granting exception, affected project, etc.)

35. All changes on submitted forms must be traceable. It must be possible to see who did the changes at which time.

36. It must be possible to see (also old) versions of the submitted forms and to compare the different versions.

37. It must be possible to open up individual fields of input forms for editing to specific users. These opened up fields can be changed and saved without affecting the latest version of the form.

38. The submission of such an opened up input form does not lead to a new version number. The changes must be approved one by one by the concerned authority instead. Changes may be rejected, approved and/or commented.

39. The approval of changes by the authority leads to an updated version of the application form. The approval has to be logged.

    a. Authority in this case can mean, Joint Secretariat, Member State, Steering Committee, etc. This has to be defined in the configuration of the system.

40. It must be possible to add approval steps to the workflow, which need approval of several parties before continuing in the workflow. The number of approvals must be configurable.

41. Document centre: A central document storage must be available, where all documents uploaded to the system are available. It must be possible to group the documents into a predefined structure (e.g. per project, per document type, …)

42. It must be possible to define and configure **checklists.** Checklists contain questions, which can be answered with "Yes" and "No" and possibility to assign comments to the answers. Furthermore the possibility for adding numeric assessment (scoring) must be provided.

43. It must be possible to choose the different options for each type of checklist.

      a. E.g. Finance and project development periodic checklists, pre-assesment of application, etc.

44. Checklists must be changeable by system administrators (new questions, changing text, switch questions on/off, assign different user rights to questions)

45. When using the numeric assessment (scoring) a total sum and the average score must be calculated and shown.

46. The system must allow answering the same checklist in parallel by different users (parallel assessment).

47. In case of parallel assessment it must be possible to compare and edit the different assessments in one view.

48. It must be possible to export the answered checklists and overviews both to an editable and a not editable format.

49. The documents should be stored on the file system (Document centre).

50. The access to certain parts of the document centre or to certain documents must be configurable by defining user rights.

51. Bulk upload of more than one document at once and bulk download of more than one document at once must be possible ("download all", "upload all")

52. Security and confidentiality of the transferred data must be ensured.

53. Secure login with username and password must be provided. Usernames and passwords must fulfil minimum security standards.

      a. Following (EC) E-cohesion standards

54. The system must provide an overview page ("My OMS Dashboard") for all OMS users. Depending on user rights or status different information must be presented e.g. information about the status of the user's projects, payment claims; for authorities or member states information about beneficiaries of their country.

55. User defined shortcuts should be possible to allow fast access of often used functionalities.

56. The system should allow automatic time triggered export of predefined data and automatic transfer of these data to a remote system

57. Geographical presentation of project data – this possibility offers by the system – a presentation of all projects/project partners on the interactive map. Geographic coordinates must be collected for all projects/partners/deliverables which could be shown on a map.

58. Comfort function mouse-over: The system shows information about a field (e.g. how calculations are done and what has to be inserted). The content of the information boxes has to be configurable by the ETC Programmes.

3.   Dashboard

The dashboard is intended to be the first page a user of the OMS sees after having logged on to the system.

The Dashboard should give a quick overview of relevant aspects of the system. Since not all parts of the system are equally relevant for all users it would be highly appreciated that a developer supplied a solution that would accommodate user flexibility.

Example of JS staff user

w w w : HTTP://w w w .northsearegion.eu/OMS/login/Mydashboard	

Welcome to OMS VB - my DashBoard

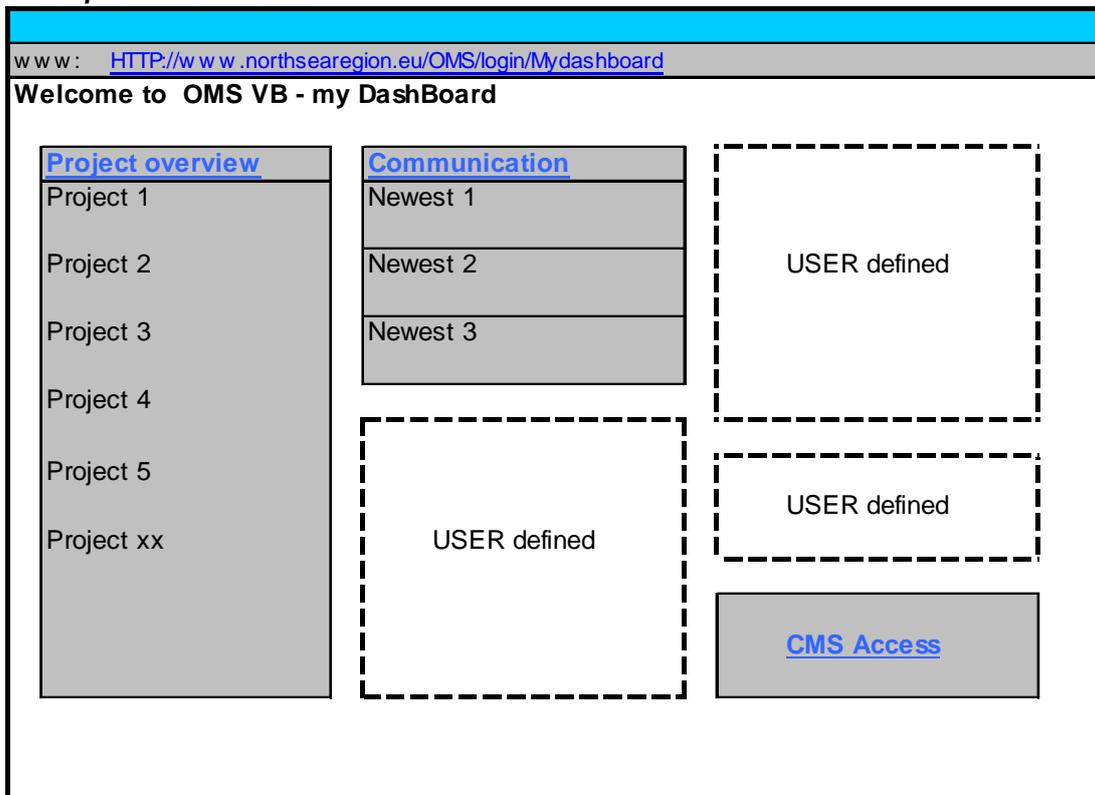| **Project overview**	**Communication**	
Project 1	Newest 1	USER defined
Project 2	Newest 2	
Project 3	Newest 3	
Project 4		
Project 5	USER defined	USER defined
Project xx		
		CMS Access

Illustration 1

User flexibility is illustrated on illustration 1, where an example of a screen dump of a JS staff user is presented. This type user would need easy access project overviews of relevant projects (see Project overview module), relevant is in this context determined by the projects for which the user are designated desk officer.

Another example can be found in illustration 2. This illustration reflects the system from the user side and in this case from the perspective of the Lead Beneficiary of a project consortium. The Lead Beneficiary should have easy access to relevant data (determined by the individual user),

which could include overview of ERDF allocation, payments made from the programme to the project, newest communication (see communication module), etc.

Example of project user

www:	HTTP://www.northsearegion.eu/OMS/login/Mydashboard

Welcome to OMS VB - my DashBoard

Project overview		**Communication**	**USER defined**
Funding allocated	€	Newest 1	
- ERDF	0		
- ERDF/EQ	0	Newest 2	
Expenditures	€	Newest 3	
- Reported	0		
- Deductions	0		
- Accepted	0	**Reporting module**	**USER defined**
Payments	€	Start new report	
Acc. Payment	0		
Awating payment	0	Submitted reports	
			myWebspace dashboard
		etc.	

Illustration 2

0.2 System Structure
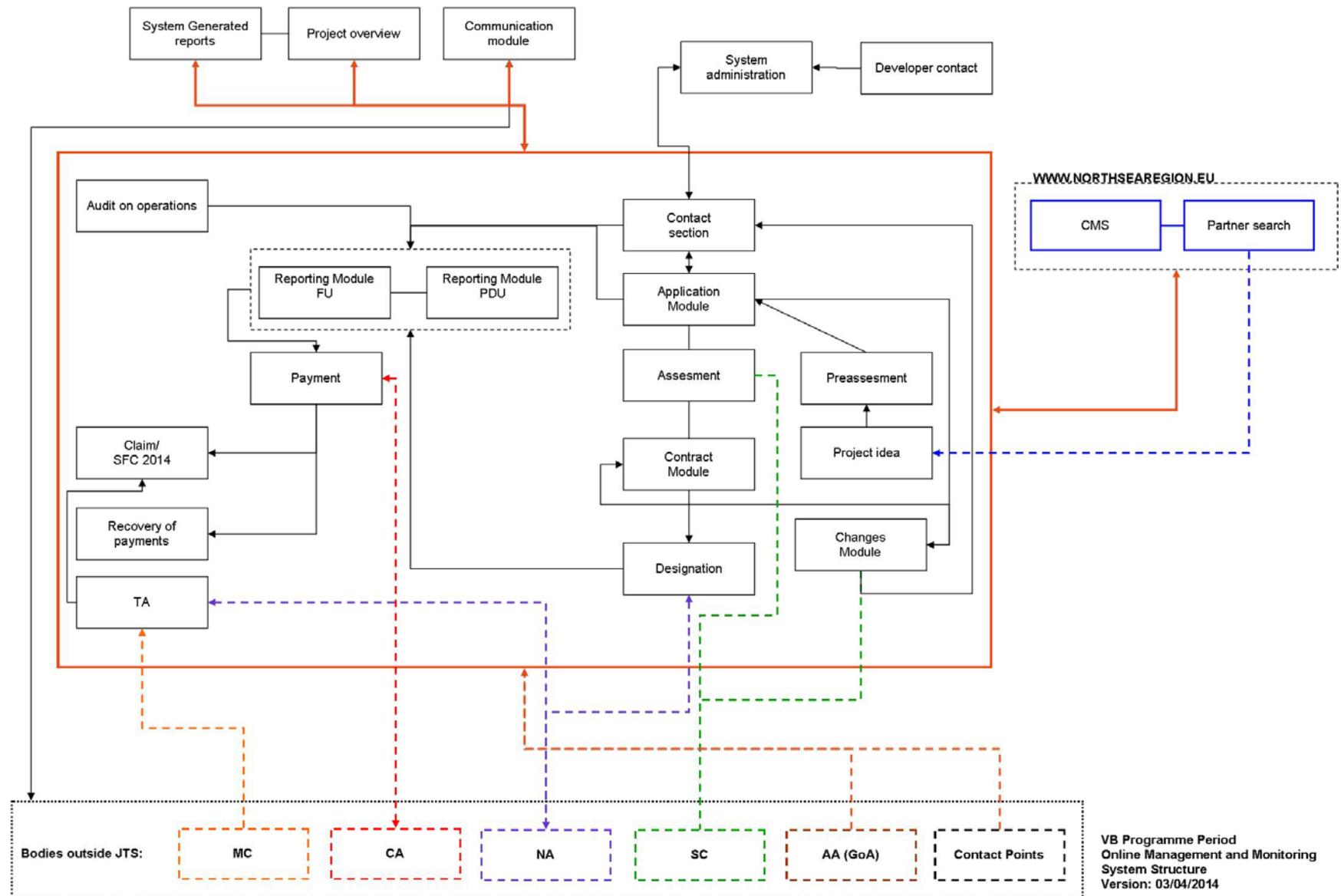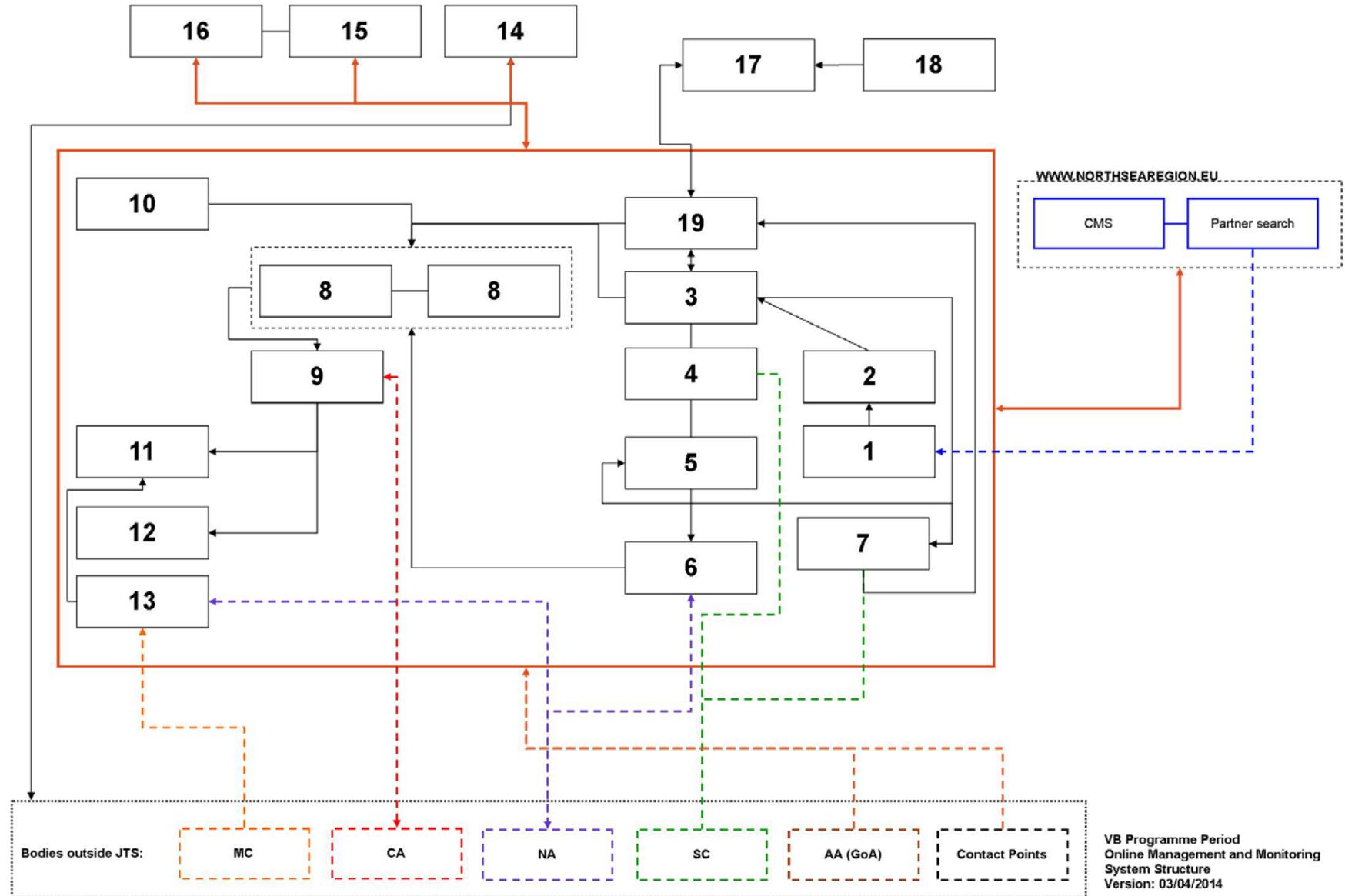
VB Programme Period
Online Management and Monitoring
System Structure
Version: 03/04/2014

0.2.1 System Structure – Numbering of modules

Bodies outside JTS: | MC | CA | NA | SC | AA (GoA) | Contact Points

WWW.NORTHSEAREGION.EU
CMS | Partner search

VB Programme Period
Online Management and Monitoring
System Structure
Version: 03/04/2014

The following pages describe in words the diagrams of section 0.2 (System Structure) and follows the numbering of sections 0.2.1 (System Structure – Numbering of modules).

<u>Abbreviations</u>

OMS: Online Monitoring System
JS: Joint Secretariat
HoS: Head of Secretariat
CDR: Central Denmark Region
CA: Certifying Authority
AA: Audit Authority
GoA: Group of Auditors
NA: National Authority
MA: Managing Authority
SC: Steering Committee
MC: Monitoring Committee
NCP: National Contact Point
FU: Finance Unit (JS)
PDU/PDC: Product Development and Communication Unit (JS)

LB/LP: Lead Beneficiary
FLC: First Level Control
SLC: Second Level Control
TLC: Third Level Control

ICL: Initial Check Letter
PCL: Payment Cover Letter
AF: Application form
LoI: Letter of intent

NSRP: North Sea Region Programme
ERDF: European Regional Development Fund
MS: Member state
Non-MS: Norway

CMS: Content management system

1&2. Pre-assessment and project idea

1. JS should have option to forward project ideas from OMS to partner search/idea section on website/ CMS.

2. The JS staff should be able to open and close a round for project idea/pre-assessment. It must be possible to define 'project idea for pre-assessment' calls according to application rounds. Each call has a start and an end time (deadline). Selected users by user rights.

3. The JS staff should be able to edit fields in the project idea and pre assessment form. Selected users by user rights.

4. Applicant needs to be able to log into the system and create a user area. Verification should take place using a secure log in and password. At this stage user access will be restricted to specific parts of the system.

5. Applicant can generate a project idea form, they should be able to edit as many times as necessary with auto save functions.

6. The main idea holder must be allowed to allow other potential project parties to access the idea form with read or read/write permission (sub-user rights). They have to be activated using an e-mail link.

7. The idea is submitted by applicant for pre-assessment in the system.

8. Message informing JS (notification to desk officer), Contact Points and other named stakeholders of submission of project idea in the system.

9. Pre-assessment form generated for desk officer to complete (options for system: incomplete, being processed and complete).

10. Pre-assessment ready. Message sent to the project applicant on completion informing that assessment is ready in system.

11. Message also sent to Contact Points and other named stakeholders. All pre-assessment stored under the relevant call in the system.

12. If the idea is followed through to application it remains linked to the submitted application (case history). If the idea goes no further, it is stored and can be accessed.

3. Application Module

The application acts as the main up to date data centre for project - any changes or amendments made are applied in the application. The application process will be two staged with the first stage (and based on approval) followed up by a second stage application.

13. The JS staff should be able to open and close a call for applications (for both first stage and second stage applications). It must be possible to define calls for applications. Each call has a start and an end time (deadline) and a related project type. Selected users by user rights (in system management).

14. The application form should be made available in two parts; a first stage form and following approval, a second stage application form (second stage application only accessible for user after approval of first stage).

15. The JS staff should be able to edit fields in the first stage application assessment/second stage application assessment and system generated letters. Selected users by user rights.

16. Applicant needs to be able to log into the system and a user area is created (dashboard). Verification should take place using a secure log in and password (system generated with option to personify). At this stage user access will be restricted to the relevant/specific parts of the system i.e. first stage application. Electronic signature option initiated.

17. Applicant can generate a first stage application form they should be able to edit as many times as necessary with auto save functions.

18. The main applicant must be allowed to allow other project partners to access the first stage application form with read or read/write permission (sub-user rights). They have to be activated using an e-mail link.

19. If sub-users are granted write permissions the concurrent editing of forms by different users should be possible. A message for users must be shown in this case identifying users working in the same application.

20. The applicant must submit the first stage application form. When the applicant has pressed 'submit", then the application should no longer be editable from the project side, unless unlocked by JS officer.

21. The submission of first stage application (SUBMIT) is only allowed by the main applicant and is identified by the electronic signature.

22. The applicant and JS /and other dedicated stakeholders should receive system notification that the first stage application has been submitted (with date, time and project title). The text of the notification template must be editable by administrators.

23. Date/time stamp – it must be traceable when the complete AF was submitted in the system and by whom.

24. The system must automatically assign a unique identifier to the first stage application form.

25. JS can see an overview of first stage applications generated/in progress and submitted.

26. Submitted application forms must be assigned to a single call for applications.

27. Submission after the deadline must be impossible. An option to re-open for first stage application for editing and re-submission should be possible by desk officer. A field for explanation for delayed submission must appear for applicant to complete.

28. The JS can now see the submitted first stage applications and annexes. The submitted application forms must be exportable to pdf and printable (project overview).

29. If approved, the applicant must be granted access to the second stage application. If rejected, the concept application must be saved with a log history.

30. Applicant has access to the second stage of the application form they should be able to edit as many times as necessary with auto save functions (enabled by JS user rights).

31. Applicants should be able to view and edit the first stage part of the application form.

32. The main applicant must be allowed to allow other project partners to access the second stage form with read or read/write permission (sub-user rights). They have to be activated using an e-mail link.

33. If sub-users are granted write permissions the concurrent editing of forms by different users should be possible. A message for users must be shown in this case identifying users working in the same application.

34. The applicant must submit the second stage application form. When the applicant has pressed 'submit", then the application should no longer be editable from the project side, unless unlocked by JS officer.

35. The submission of projects (SUBMIT) is only allowed by the main applicant using their electronic signature.

36. Annexes - It must be possible to upload annexes to the second stage AF (unstructured data, which must be stored in a structured way and easily accessible for the users). It must not be possible to submit the AF if required annexes are not uploaded. A maximum file limit must be set in order to limit the storage space used for unstructured data/files. The number and nature (mandatory yes/no) of attachments must be configurable.

37. The applicant and JS /and other dedicated stakeholders should receive system notification that the second stage application has been submitted (with date, time and project title). The text of the notification template must be editable by administrators.

38. Date/time stamp – it must be traceable when the second stage AF was submitted in the system and by whom.

39. The system must automatically continue to use the same unique identifier that was given to the first stage application form.

40. JS can see an overview of second stage applications generated/in progress and submitted.

41. Each form must now be viewable in its entirety i.e. first and second stage.

42. Submitted application forms must be assigned to the same single call for applications as for the first stage application.

43. Submission after the deadline must be impossible. An option to re-open for second stage application for editing and re-submission should be possible by desk officer. A field for explanation for delayed submission must appear for applicant to complete.

The JS can now see the full submitted application and annexes. The submitted application forms must be exportable to .pdf and printable (project overview).

4. Assessment

This module supports the assessment of Application Forms according to standard assessment criteria. The assessment must be done and approved by persons assigned by the programme. The assessments for both the first and second stage application process would take place within the same form.

44. Assessment forms are generated on submission of the first or second stage application. It must be possible for the JS to access parts of the assessment forms for the first stage application form and the remaining parts on the completion of the second application. The same system options as listed below should be possible for both assessment stages. It should only be possible for JS to view the first stage assessment and not edit it.

45. The assessment of AF takes place according to standard assessment criteria via two checklists. The assessment must be done and approved by persons assigned by the programme. The assessment is divided into: 2 x technical assessments (pre-defined checklists) (FU/PDU) and an eligibility checklist. If there is a scoring system, points must be totalled automatically.

46. The eligibility check takes place using checklist, where certain automatic checks must be embedded (e.g. if all fields are properly field out, if co-financing rate is correct, if minimum 3 partners from 3 MS applied, etc.)

47. Message to inform project of the outcome of the eligibility check. Comments to applicant transferred from fields in the eligibility checklist into message. Option to send.

48. Technical assessment forms drafted. Editing: it must be possible to manually change the assessment results of a project. Communication forum between PDU, Admin and FU on assessment progress. It must be possible for different desk officers to use the assessment forms at the same time.

49. Assessment saved and submitted with recommendation to SC (system generated reports and project overview). Auto generated of 'meeting papers' with assessment outcomes.

50. System notification informing SC/NCPs that assessments are completed in system (per project). Projects presented (with overview section) to the SC for consideration.

51. The system must allow to manually enter the decision of the "Monitoring or Steering Committee" from a predefined list of values i.e. approved, approved with conditions etc... The possibility to enter comments and the date of the decision of the steering committee must be possible. For conditional approval, outcome presented in letter to applicants should be visible during project implementation.

52. The project is marked as: rejected, approved under conditions or approved by the programme MC. Projects, which are rejected must be archived and available as read only. Approved projects will be further used. If approved under conditions these should be listed and optionally included in the project contract.

53. Automatic notification: templates for approval (with conditions) or rejection to be generated and sent via message to project applicant. The text of the templates and the individual messages must be pre-defined but editable.

54. Accepted projects must be forwarded to the next phase (contracting module).

55. Accepted beneficiaries have extended user rights. For example; to reporting and designation.

5. Contract

This module manages the generation of pre-defined project contracts (standard template filled out with the data from the project AF). Multiple type contracts required i.e. one for cluster projects, regular projects etc**.**

56. Contract or addendum generation (hereafter mentioned as contract) and preparation by desk officer. Data fields drawn from in the approved application. Comment fields for desk officer must be possible during preparation of the contract/addendum. System generated notification sent to Head of Secretariat (Hos)

57. Contract revised and approved by HoS. Comment fields from desk officer visible for Head.

58. System generated notification sent to Central Denmark Region (CDR) informing them that a contract is ready in the system. CDR digital sign contract and send system generated notification to applicant that contract is waiting in the system.

59. Project signs the contract by digital sign. PDF or equal versions of the signed contract must be possible.

60. All documents must be stored in a structured way and easily accessible (see project overview). Similarly, contract addendums (version format) must be generated at any time and stored with original contract.

61. The most up to date project contract must be viewable for passive users.

6. Designation module

It is required for all project partners to have a designated First Level Controller (FLC). The designation is formally carried out by national designation bodies, which handle all designations within their own area. When the designation is in place then the project partner can report expenditures occurred, and not before, because the designated FLC controls that all reported expenditures is in line with national rules), EC regulations, and Programme specific rules.

62. Designation of FLC should only be made available after the project has received a contract.

63. System notification notifying new beneficiaries that they should go into the system and initiate designation procedure.

64. Beneficiaries should have access to designation templates.

65. System notification notifying national designation bodies that they should designate first level controllers (FLCs) to a beneficiary (access determined by user rights).

    a. The designation body has the possibility to either reject or approve the designation.
    b. A first level controller can be designated for multiple projects and beneficiaries.

66. Designation bodies should be able to contact beneficiaries directly through the system (communication module).

67. After designation the system should generate access for the first level controller (user-id and password) to the system and to the particular beneficiaries' data.

68. A project and its beneficiaries should only be able to report in the OMS after designation of a FLC has taken place.

69. Simple overview status of designations should be available on project level.

70. If designation is missing the system should automatically report this to the LB with request for follow-up.
    c. The system should continue to remind the LB at pre-determined time intervals.

71. When all designations have been made for a project the desk officer to receive a system notification.

72. The system should automatically designate controllers to Swedish beneficiaries.
    a. Chosen from a list defined by Tillväxtverket.

7. Changes

This module supports changes to the project. There are several types of project changes (concerning implementation time or schedule, budget reallocations, content changes, partnership changes etc.). All changes require modification of project data stored in the system. The majority of changes will need approval.

All changes are modifications on the project application. The application form and all automatically generated tables and statistics and reports must always reflect the most recent changes made. The system must store a record of previous approved versions.

73. Project starts the change process, in the OMS - apply for change. Changes can be made in project consortiums, lead beneficiary, activities, and budget and project completion date. It must be possible to make a number of changes at one time i.e. budget and activity. It must be a requirement to add a reason, preferably with using comment fields in the application form.

74. Lead beneficiary submit change in the system. System notification that change has been submitted.

75. JS check consistency of the request for change. The JS should be able to unlock the change if further information is needed from the lead beneficiary.

76. Project can then sign the change electronically and submit again. Projects should be able to submit more than one new change before the previous has been closed.

77. The requested changes are logged by number and date.

78. System notification informing JS of request for change in system.

79. JS can select assessment template – save and edit functions. It should be possible to label changes i.e. if change requires SC approval there should be the option to tick a box indicating this and vice versa.

    a. Based on labelling, the JS can either approve or make recommendation to SC and then SC makes decision.

80. System notification to the SC, containing instructions when, sufficient change requests are waiting for approval (bundled with overview). Desk officer (by user rights) should be able to manage this process and authorise the system notification.

    a. Overview of these changes exportable by PDF or equivalent.

81. SC decides upon changes based on silent approval. It should be possible for them to add comments or questions and to ask for clarifications.

82. The decision is chosen from drop-down menu. It must be possible for the authority to acknowledge some changes and to reject others.

83. Change is then finalised. The change is approved and updates are automatically made in the application form. The JS would always work with the latest version.

    a. Project informed of outcome through a standard letter template (PDF or equivalent. exportable). Sent via message with letter attached to lead beneficiary.

84. JS will generate new or addendum contract for the Project (see contract module).

85. Overview of all projects and status for JS: overall list showing the individual projects, name of the current change request, and were in the process it is (see project overview)

86. All changes made should be viewable for the project (project specific). This implies that there should be a register of the individual changes made, and that each and every one of them should be viewable.
    a. The individual projects need to be able also to see the status of the process.

8. Reporting module (including final reporting)

The reporting forms should be accessed in the system either through the dashboard or reporting module. A function should be built in to develop new or additional templates for the first, penultimate and final reports incorporating any extra requirements (including additional, new or deletion of redundant questions for the LB/editing through user rights).

87. The JS staff should be able to open and close reporting rounds per project *(in system management)*
    a. Selected users by user rights

88. The JS staff should be able to add or remove fields in reporting rounds and templates.
    b. Selected users by user rights

89. Individual beneficiaries need to have access to report both activity progress and financial progress per reporting round. Upload functions for additional information with both reports should be possible.
    c. activity progress according to work packages (templates will be provided for different types of reports i.e. short reports or long reports)
    d. financial progress according to Financial budget (templates will be provided)
        i. divided in Member state and non-member state (Norway)

90. Project beneficiaries should be able to report expenditures and related information in several columns in a reporting sheet;
    e. Budget line (5 budget lines),
    f. Related to each amount reported; invoice number, name of supplier, date of payment of the invoice, description of invoice (should be possible to turn off/on this function),
    g. Attachments should be allowed to each row of expenditure as mentioned in sub-section b).

      h. Accumulated amounts on beneficiary level; Total submitted amount (could be an auto sum) by beneficiary submitted to FLC, approved amount by FLC, comments from FLC (FLC certificate),

      i. Accumulated amounts on Lead Beneficiary level; Total Submitted amount, approved amount (LB/FLC), comment (LB/FLC)

      j. Accumulated amounts at the JS/CA; Approved amount (JS), comment (JS), approved amount (CA), comment (CA).

91. It should be possible to enter preparation costs as separate project report.

      k. This should be an "only once" option, and should be available from day one a project can report.

      l. (this field should be possible to turn off/on depending on the structure of how reimbursement for preparation expenditure is awarded)

92. Expenditures reported should be viewable as accumulated and period specific, on beneficiary or project level.

93. Project reporting submitted to JS should be exportable (e.g. PDF, spreadsheet or equivalent) and viewed in the project overview.

94. For verification purpose, FLC must have access to all documentation entered by beneficiaries.

      m. Beneficiaries FLC should have access to beneficiaries documentation

      n. The FLC of the Lead Beneficiary should have access to all FLC certificates and FLC checklists for the entire project consortium.

95. FLC certificate (pre-defined checklist/template), comment on activity progress, work package statuses, comment on LB comments, on-the-spot verification, calculation of hourly rate.

o. Comments from previous checklists and application assessments should be easily obtainable/connectable in the checklist.
p. Comments from JS made in connection to previous payments should be shown.
    i. Also indicating follow-up questions to be solved or commented upon.

96. When the LB has pressed "Submit", then the report should no longer be editable from the project side, unless unlocked by JS officer.

97. Automatic alerts if; Grant rate is about to be exceeded, grant rate exceeded, incorrect or questionable information entered, missing information, missing field entry, zero reporting, failure meet spending target, designation of FLC not in place, etc.
q. Alerts indicated to beneficiary, should be made available to relevant desk officer at JS.

98. Notification to relevant desk officer, when LB has submitted documentation in the system.

99. Finance unit checklist (pre-defined checklist/template), comments to amounts, comments to accumulated amounts, verification of correct split between amounts related to MS/non-MS, comment on LB/FLC comments, deductions, 2nd level control deductions (audit on operations), additional deductions, isolated budget lines taken out of a the processing of a payment claim.
r. Comments from previous checklists and application assessments as well as communication during checking reports should easy obtainable/connectable in the checklist.

100. Project development unit checklist (pre-defined checklist/template), comment on activity progress, work package statuses, comment on LB comments.

s. Comments from previous checklists and application assessments as well as communication during checking reports should easy obtainable/connectable in the checklist.

t. Option to forward parts of checklist to the CMS/programme website.

u. Also indicating follow-up questions to be solved or commented upon.

101. Communication with project should be easy made when checking the reports and for follow-up (PDU/FU)

a. easy access to communication tool with automatic indication of relevant field that needs clarification.

102. Periodic reports handled by JS (FU/PDU) should be accessible by CA after completion at JS. Status of this should automatically be communicated to CA through system notification.

103. Status on periodic report progress should be visible in project and reporting round overview;

a. Project name and journal-id

b. Date of report submitted

c. Finance unit status; checklist not started, checklist started, checklist completed, quality check preformed, manager check carried out.

d. Project development unit status; checklist on activities not started, started, completed. Manager check carried out.

e. Ready for payment

f. At CA

g. Payment made (date)

104. Electronic signature should be applied for verification purpose.

105. Checklists should be available in the project overview module – sorted per report.

106.   An optional concluding letter (template based) for each report by selected fields in both the FU and PDU checklists generated (editable fields by desk officer). Letterhead paper, PDF version or equivalent sent through communication module.

9. Payment

The payment module is related to the work of the Certifying Authority (CA) mentioned in article 126 of regulation 1303/2013. The payment module supports the payment claim to the European Commission.

107.   The system should automatically notify (system generated) CA when amounts (JS verified amounts) reported by projects are ready for payment (after last electronic signature from JS).

108.   The system should provide a checklist (by predetermined template) for the work of CA. CA needs to be able to view JS checklist for reporting, and the certificate from the FLC's, including;

      a. Deductions made
         i. First level control deductions
        ii. JS deductions
            1. Technical deductions
            2. Overspending
       iii. Second level control deductions
       iv. Third level deductions

109.   Comments from desk officer should be visible for the CA user.

110.   Amounts for recovery on beneficiary level should be visible (see recovery of payments section).

111.   The funding source should be visible in the checklist
      b. Member State or Non-Member State

112.   All amounts should be in EURO.

113. It should be possible for CA to add bank fees related to project payments, so that these would be reflected in the amount spend by the project (limited by maximum grant).

114. Overview of payments made should be easy obtainable (see project overview)
    c. Formatting: Project, Reporting Round XX, Paid: XX-XX-XXXX (date)

115. CA should verify the payment by electronic signature (e.g. username and password).

116. System notification to JS that payment has been verified.

10. Audit on operations

Within the North Sea Region Programme the functions of the audit authority (AA) described in art. 127 of regulation 1303/2013, are to some extent delegated to national bodies. This means that the appointed AA does not do audit operations in other nations involved in the programme. The yearly audit on operations is carried out by national second level controllers, and the audit is based on a sample of beneficiaries which have claimed expenditures to EC in the previous year.

117.   The audit authority (AA) (placed in Denmark) should have full (view only) access to the OMS.

      i. National second level controllers[1] (one for each Member State and one for Norway) should also have access to the OMS.

      ii. Access should be limited to national interests (i.e. German 2nd level controller should have access to information regarding German beneficiaries).

118.   The system should provide functionality for obtaining financial data regarding specific periods.

      i. Data should be filtered by;

         1. Beneficiary, project or nationality

         2. From EC claim in period t-1 to EC claim in period t.

         3. From time A to time B

         4. Within last 3, 6 and 12 months

119.   The audit authority and 2nd level controllers must have access to all lists of expenditures, invoices and to all related documentation to select single invoices for examination. (this could be solved by the possibility for the single beneficiary to upload a PDF or equivalent transcript from their own accounting system displaying expenditures incurred in the selected sample period)

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[1] The Audit Authority and the national second level controllers as a group are mentioned as 'Group of Auditors' (GoA)

120.   The system should generate an audit checklist (based on template).

121.   The GoA members should be able to generate an audit on operations reports report in the system after audits have been carried out.
   ii. Comments from checklist should be imported into the report.

122.   Audit reports should be stored in a structured form.

123.   Overview of audit on operations should be available (taken from point 122). Overview of audits findings should be per budget line.

124.   The system should provide an automatic solution such that audit findings would automatically be included in the next reporting round, visible for the project and JS staff (checklist).

125.   The GoA should be able to communicate by the communication module. Exchange of text and files should be possible.

11. Claim module

Several times a year the Programme request ERDF funds from the European Commission. The request is based on the amounts paid to projects and TA funds paid by the Programme Member States to the Programme.

126. The module should reflect accumulated overview of project reported amounts that is accepted by JS.

127. The module should indicate from which periodic reports the project related amounts are drawn from.

128. Deductions to reported project related amounts should be visible.

    i. Accumulated and detailed overview of deductions should be available.

129. Preparation costs reported and accepted should by visible.

130. Only amounts accepted by JS should be used in this module, leaving not checked data/amounts out.

131. Source of funding should be reflected e.g. private, public or community (ERDF).

132. The module should take into account that amounts claimed by Norwegian based partners are not applicable for reimbursement by the mean of ERDF funding; hence, these amounts should be deducted from the calculation, and reflected only for reference purpose.

133. The module should take into account different grant rates, identified from the application form (AF).

134. Recoveries should be deducted from the accumulated amounts on project level.

      i. Amounts related to this must be visible.

135. Amount of ERDF funding claimed in the individual claim should be traceable (difference from the previous claim).

136. Amounts should be split per project and per priority under which it is funded.

137. The claim should also include Technical Assistance (TA).

138. An overview of a claim should be exportable in PDF spreadsheet or equivalent format.

12. Recovery of payments

This module is to be used when no further payments is made to a beneficiary.

139. It must be possible to enter irregularities/ each amount found ineligible after reimbursement into the system. This view must contain the following information: discovery date, affected project partner, discovering authority, amount (total and ERDF, national co-financing), comment/reason, interest (total, ERDF, national co-financing), interest of late payment (total, ERDF, national co-financing), ref. number of the payment claim to the European Commission, Withdrawal in instalments (Yes, No), deadline for pay back, date of pay back, type of reclaim (Recovery/Withdrawal), ref. number of the discovery letter, date of the discovery letter, court case (Yes, No), irrecoverable amount, date of the insolvency (opening and closing), forwarding to European Commission(Yes, No), Programme priority, suspected fraud (Yes, No), Amount over 10.000€ (Yes, No)

140. Irregularities and recoveries must (if financially possible) be assigned to single project payment claims and single invoices.

141. The total project expenditures must be reduced by the recovered/withdrawn amount.

142. The payment claim/total amount claimed from the European Commission must be held up to date.

143. It must be possible to generate an editable, sortable, exportable report based on configurable criteria (e.g. time, period, project).

144. For the report to the European Commission (on recoveries and withdrawals) the following table must exist: report ID, recoveries

per priority, outstanding recoveries per priority, withdrawals per priority, irrecoverable amount per priority. Based on templates.

145. For the report to the European Commission (on irregularities) the following table must exist: project ID, project name, lead partner, affected project partner, discovering authority, date of the discovery, amount (total, ERDF, national co-financing), suspected fraud (Yes, No), court case (Yes, No), Comment, Programme Name

13. Technical Assistance (TA) Module

Technical assistance covers the payments made from the Member States and Norway to the JS.

146. The system should allow for configuration of individual payments schemes dependent on the specific Member State (or Norway's) wishes.

147. The System should allow for registering payments from individual Member States or Norway.

    i. Date for when payment to Programme was made/transferred

    ii. Number of payments made per Member State and Norway

    iii. Accumulated payments made from individual Member States or Norway
        1. ERDF funding received on basis of this (Included in latest claim to EC)
        2. Anticipated ERDF funding to be received on basis of the accumulated payments.

    iv. Accumulated outstanding payment relating to individual Member States or Norway in accordance with the payment scheme mentioned under point 1).

148. The system should allow a budget to be made and stored in the Monitoring system – exportable to excel and PDF or equivalent.

14. Communication module

The communication module would be accessible in the 'dashboard'. It should enable secure exchange of information and documentation drawn from all modules between relevant stakeholders (e.g. lead beneficiaries, beneficiaries and programme authorities or among programme authorities). The communication module should serve as a secure communication tool for those using the system.

The module must ensure;

149. The communication module (from the user side) should be structured and designed similar to an 'outlook' interface including for example, a calender, folders, contacts and mails which include date and time for when the message was sent/received should be clear visible.

150. A simple overview of new messages, and messages with follow-up status should be visable on the dashboard linked to the individual user.

151. Easy access to the module from all modules in the system.

152. Attachments is possible, and the storage of them.
    i. Structured and unstructured data should be stored in a structured way.

153. The possibility of group contact lists (determined in administration module).
    i. Certain projects, Monitoring Committee, Steering Committee, Group of Auditors, etc.

154. The possibility of user defined message templates.

155. The possibility for automatic notification by e-mail if message is received in the system.

      i. Defined by registered e-mail address in the contact information for the individual user (see 'Administration module').

156.   Verification codes/ or identification characteristics on all correspondence.

15. Project Overview

Project overview must be accessible from the dashboard. Access by user rights. For example, projects only have access to own project data and JS staff and other users (by user rights) have access to all projects.

The Online Management and Monitoring System, should have an in-built section where a reflection of the individual project should be easy obtainable. This reflection/portfolio should include all contracts issued, approved, recorded changes (which could be traced through time), all periodic reports both financial and activity report, payments made to the project, comments made to the previously mentioned reports, newest contact details of the beneficiary.

The Project overview should:

157. Allow for simple and detailed project portfolio overview (by choice).

158. Make easy access to latest application
    i. Previously application forms should be available (The application form is changed if a change is approved)
    ii. Technical assessment should also be available for viewing

159. Provide an overview of all changes made
    iii. Submitted and accepted
        1. major and minor changes
    iv. Submitted and Rejected
        1. major and minor changes

160. Provide overview and access to Contracts/addendums issued (contract module)
    v. Number of contracts issued
    vi. Latest contract

161. Give easy access to periodic reports submitted

      vii. Activity and financial reports separate. For the finance there should be easy access to latest approved project budget

     viii. Simple list of available periodic reports

      ix. Clear indication if Final Periodic Report from a project

162. Make easy access to overview of comment made to internal (JS) checklists

       x. Activity – Project Development unit Checklist

      xi. Financial – Finance Unit Checklist

163. Make easy access to overview of designated first level controllers connected to the project.

     xii. Alert if not all beneficiaries have a designation in place.

164. Make easy access to overview of payments made to projects (See also payment module).

     xiii. Date of transfer

     xiv. Link to uploaded bank statement of transfer

     xv. Accumulated payment made

         1. Split per Member State and non-Member State (Norway)

     xvi. Percentage spent accordance to maximum grant.

    xvii. Alert if accepted project reported amounts exceeds 80% of max. Grant before final payment.

16. System Generated Reports

The Online Management and Monitoring system should be able to export all data collected in a structured way. The System generated reports should be stabile, reliable, and consistent in its outputs.

165.   The System should be able to export predetermined data to the CMS system.

The System should;

166.   Supply a report for N+3 follow-up.
     i.   This implicates that amounts budgeted in year t must be claimed to EC no later than in period t+3 and the claim must be based on real costs (claimed expenditure from projects and TA) (see claim module).
     ii. Function for status on programme spending targets.
          1. Accumulated over the programme period
          2. Yearly spending target

167.   Supply a report for viewing ERDF allocation
     iii. Per country (Member States and Norway)
     iv. Per priority
     v.   Per project

168.   Supply an overview of payments made to projects (see also 'Payment module' and 'Project overview module').
     vi.   When payment was made/Transferred
     vii. Which periodic report the payment is related to
     viii. The split of the payment between Member States and Norway
     ix.   Amount of preparation costs paid
           1. Member State and Norway
     x.   Accumulated amounts (perhaps by filter);
           1. Per priority
           2. Per country
           3. Per project

4. In total (overall)

169. Supply an overview of received periodic reports from projects
   xi. List of submitted reports
   xii. Status of progress
      1. Submitted, Activity check, Financial check, CA, paid
      2. Number of days used, starting from when report is submitted until payment is made.
   xiii. Filter by reporting round
   xiv. Number of reports received in individual reporting round

170. Supply an overview of project related data – from individual project application or aggregated data from all applications
   xv. Simple or detailed
      1. Simple; only list Lead Beneficiaries contact details, organisation, country, etc.
      2. Detailed; list all beneficiaries contact details contact details, organisation, country, allocated budget, etc.

171. Supply an overview of reporting round status
   xvi. How many reports has been requested
   xvii. How many reports has been submitted/received

172. Supply an overview of reports from programme bodies
   xviii. List of reports submitted in the system
   xix. Projects implicated
   xx. Beneficiaries implicated
   xxi. Total amount of expenditure checked
   xxii. Total amount of expenditure found ineligible

173. Supply an overview indicators for the Annual Report
   i. Number of beneficiaries;

1. number of private partners,
2. number of public partners
3. number of universities
4. number of NGOs
5. how much budget has been spent,
6. allocation in total by priority,
7. in total for the entire programme,
8. breakdown per individual country,
9. Number of universities, NGOs, public sectors involved (what's the difference between i and vi?)

ii. Project summaries (concerning content aspects)?
iii. On-the-spot verified amounts
1. Percent of total eligible expenditure reported
2. Filtered by
a. Per country
b. Per beneficiary
c. Per project
d. Per priority

iv. Priorities by source of funding
1. Expenditure reported and accepted by projects per priority
2. Corresponding public contribution per priority
3. Private share of expenditure per priority
4. Expenditure paid to projects per priority
5. Total payment received from EC
6. Sub- and grand totals

v. Indicators
1. Output indicators
2. Result indicators
3. Environmental indicators (if we are going to have any; pending on the outcome of the SEA consultation)
4. Detailed project indicator (Name of Intervention Indicators) See attachment (work in progress)

      vi. Performance Framework

           1. See attachment (output indicators, financial indicators and key implementation steps (working titles)

     vii. Participants at MC (name, address, phone numbers, and e-mail addresses)

    viii. h. Participants at SC (see MC)

      ix. National contact points (see MC)

       x. List of approved projects 2014

      xi. List of projects and their impact on equal opportunities

     xii. Milestone Report (replace current Project Implementation Reports)

174.   Supply an overview of applications

    xiii. Per Call

    xiv. Per approved/ not approved

     xv. Simple or detailed overview of the projects (se also 'overview of project related data' above)

175.   Supply a "End-of-year document" (covers the amounts of expenditure claimed to the Commission)

       i. Show accumulated expenditure reported

      ii. Minus deductions

           1. JS deductions (Overspending)

           2. First level control deductins

           3. Second level control deductions

           4. Third level control deductions

           5. Other deductions

      iii. Member State eligible expenditure

           1. plus preparation costs

      iv. Norwegian expenditure

           1. plus preparation costs

       v. Difference from the year before

176. Dynamic reports – enabling the generation of customised reports with data from all modules and all fields.

       i. User friendliness is essential

17. System Administration

This module is intended for administration of user accounts and user rights.

The module should contain solution for,

177.   General system management.

178.   The JS staff should be able to open and close a call for applications, project ideas and pre-assessment. It must be possible to define calls for applications. Each call has a start and an end time (deadline) and a related project type. Selected users by user rights.

179.   The JS staff should be able to open and close reporting rounds *(in system management)*

        i.   Selected users by user rights

180.   Automatic generation and sending of system notifications for the above functions.

        ii.   As a security measure the desk officer should accept the sending of notification twice confirming the message to be sent including status of how many recipients that will receive the message.

181.   Assigning/change user rights by;

        iii.   Individual user

        iv.   Group of users

182.   Administration of user accounts (i.e. close, update make inactive)

183.   Default solution for password (e-signature), accommodation for "Forgotten password" →"let me create a new one".

184.   Overview of activities carried out in the system by individual user.

      v.   Latest log on date

    vi.   Changes made

18. Developer contact

This module is intended for keeping track of correspondence with the developer for all system users. The JS should have access to view all correspondence (user rights).

A log must be available to manage assistance and response requests. Response times and a plan for responding to queries and emergencies should be clearly articulated.

In each module there should be an option to access 'report problem'. This would create a contact template to developer including a 'visual' of the issue.

The module should provide,

185.   A Contact form for contacting the developer regarding issues to be addressed.

      i. Based on template

     ii. It should be possible to select matter of urgency and categories for questions/problems

186.   An overview of correspondence carried out.

187.   Overview of all issues i.e. issues pending, issues that have been addressed by the developer etc.

19. Contacts section

The contacts section is meant for JS staff to manage all programme contacts and should be available from the 'dashboard' of the JS staff. Different search functions should be available as well as the export of reports.

Elements of contacts section:

188. First name, surname
189. Organisation, department
190. Street, P.O. box, post code, country
191. Telephone, mobile number
192. E-mail (when clicked, an e-mail should open in the communications system)
193. Website

194. Project/s
195. Lead beneficiary (tick box)
196. FU desk officer
197. PDU desk officer

198. The function of the person (as tick-boxes or a drop-down menu –should be possible to select more than one):
    i. Monitoring Committee (choice of member, substitute, observer)
    ii. Steering Committee (choice of member, substitute, observer)
    iii. National sub-committee
    iv. National contact point
    v. National authority representative
    vi. Managing Authority
    vii. Certifying authority
    viii. Audit Authority
    ix. Group of Auditors
    x. Designation body
    xi. First level controller

xii.   European Commission

xiii. Other EU programmes

xiv. JS staff

xv.   Other

199.   Copy field (an automatically generated field with name and contact details)

200.   Newsletter (tick box)

201.   Comments box (text box)

202.   Log showing when and who (date and JS staff initials) made the last change to the person's contact details

Functions

Letter function

203.   Possibility to open a letter-head template which should include the contact's name and contact details in the letter head and the JS staff members contact details in the template (template will be provided)

Search function

204.   Different search options should be available; either a random search by e.g. 'project' or by 'person', 'organisation', 'function' etc. (should be possible to search on all pieces of information – broad and narrow searches)

Export function - automatically generated reports

205.   Possibility to draw out reports on all function groups on all pieces of contact information, e.g. name list, telephone list, e-mail list etc.

206.   For Monitoring and Steering Committees also the possibility of drawing out a report which can be used for confirming participation at meetings (containing name, contact details and room for signature). It should be possible to choose either all

members, substitutes and observers of one of the groups (Monitoring Committee or Steering Committee) or pick out those participating in e.g. a meeting.

<u>Entering and editing of contact details</u>

207.   All contact details entered via project applications should enter the contacts section automatically

208.   All contact details entered via the website (sign-up for conferences and meetings) should enter the contacts section automatically

209.   JS staff should be able to add, edit or delete contact details manually

210.   Contacts with access to the system should be able to enter and edit their own contact details

211.   If contact details are changed in the project application, they should automatically update in the contacts section.

Appendix 1 - Connectivity between the CMS and the OMS

In order to communicate project news and updates the JS needs to ensure that certain project information in the monitoring system is also visible on the programme website and that the transfer of information between the two systems is provided with relative ease.

It is therefore a main priority during the development of future programme tools to secure connectivity between the monitoring system and the CMS at all levels. The management of data being transferred from many of the modules in the monitoring system to the programme website through CMS will need to be embedded into the system design.

There will only be one visible 'gateway' for user login to the OMS/CMS, which should be through the programme website.

The terms of reference for the Online Monitoring System (OMS) and the CMS both outline this importance and the relevance of having a strong connectivity between the two systems. The programme will of course still control which connections are activated and thereby which data are released.

Large amounts of the data transferral will therefore be expected between the new OMS/CMS systems. For example, the programme is obliged by EU requirements to publish details about the projects funded through the programme. This information should be drawn from the OMS and published on the programme website using the CMS i.e. name of beneficiaries, country, budget, start and end date.