

# SafeEx

The definition of Ex-Maintenance



Introducing the  
**SafeEx solution**





## Introducing the SafeEx solution

### Vision

SafeEx registration and inspection software will be setting a new standard in regards to Ex-Maintenance onboard offshore and onshore oil & gas installations. The main focus is improved safety, saving money and reducing downtime.

Our software is developed in corporation with our software engineers and electrical engineers with large experience from oil & gas installations. This ensures a practical and functional solution for the inspectors working in the field.

## Advantages by using SafeEx



### Improved safety

By using SafeEx, you can prove what you inspect. You know the inspector who has been on site, and you can see their response to each question according to IEC 60079-17. Furthermore you can see immediately, what training your personnel needs.



### Save Money

SafeEx is based on automated processes, automatic upload of data and automatically generated reports. The reduction of manual tasks saves you at least 30 % in man-hours. This fact alone ensures that your investment is returned in about two years.



### Reduce Downtime

SafeEx automated report, has a business intelligence setup, that allows you to see development in your installation over time. This mean it can be used for preventive maintenance.



### Download Ex-Register

Data is downloaded from the maintenance system, such as SAP, Amos, SIS, etc. The data is verified and transferred to the PDA.



### Inspection

The inspector scans the RFID Chipt. The PDA recognises the unit as e.g. an engine or a junctionbox and subsequently loads the relevant questionnaire guiding the inspector safely through the inspection. First time, the inspector needs to associate RFID to TagNo.



### Questionnaire

The questionnaire verifies the current Ex-Data, as well as verifying drawing position. Furthermore, the questionnaire guides the inspector through the inspection, question by question, ensuring that nothing is forgotten. The questionnaires can be customized to fit your specific demands.



### Gathering data

With the PDA the inspector is capable of inspecting a larger number of units before returning to the workshop. When returning all data are automatically uploaded.



### Uploading data

After inspection, and approval by the supervisor, the data can automatically be uploaded, back into the maintenance system.



# Ex-Inspections

## The definition of Ex-Maintenance

The unique software and PDA system gives you the possibility to automatically do your Ex-Inspections according to IEC 60079-17. At the same time your Ex-Register will automatically be updated, and everything is automatically generated in a very useful report.

The screenshots show the software interface for creating an inspection. The first screen is 'CREATE TOUR' with fields for 'INSPECTION TYPE', 'USER', and 'AREAS'. The second screen shows 'Tag: 73-Im-72245' with fields for 'Tag name', 'Rfid', 'Serial number', 'Area name', and 'Model name'. The third screen shows a '1. Question' with 'Yes' and 'No' buttons, leading to '2. Next Question' and '3. Report Failure' screens.

### Create inspection

The supervisor choose inspected area, which inspector in each area and if it's a visual, close or detailed inspection.

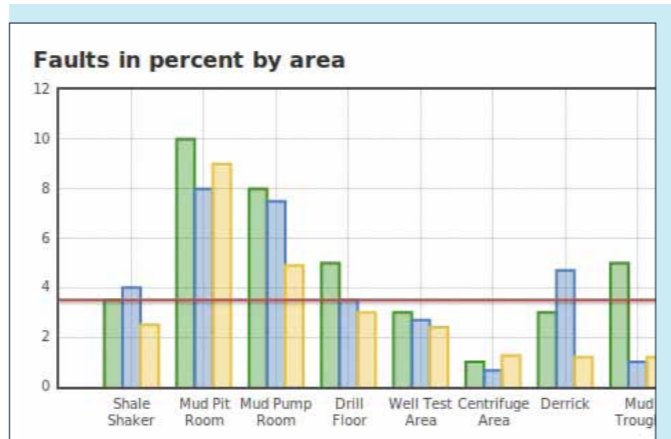
### Automatically update of Ex-Register

When scanning the RFID chip, the chosen EX data is shown. If there is any data missing or incorrect, these can be entered directly into the system.

### Process

All questions can be answered with a simple yes or no. If the answer is yes, automatically moves on to the next questions. If the answer is no, the inspector will be asked to file a report describing the non-conformity and by approval automatically to the next questions.

INSPECTOR COMMENT	SUPERVISOR COMMENT
Type: Date: New RFID	
EX "e": 2010-11-26 01:04 +0200	Click to add supervisor comment:
PRESSURE SWITCH broken	New switch ordered
EX "w": 2010-11-30 00:32 +0200	Click to add supervisor comment:
EX "e": 2010-11-27 05:09 +0200	Click to add supervisor comment:
EX "e": 2010-11-27 01:39 +0200	Click to add supervisor comment:
EX "w": 2010-11-27 12:33 +0200	Click to add supervisor comment:
EX "e": 2010-11-30 06:39 +0200	Click to add supervisor comment:
EX "e": 2010-11-26 13:52 +0200	Click to add supervisor comment:
EX "w": 2010-11-27 08:00 +0200	Click to add supervisor comment:
EX "w": 2010-11-28 02:04 +0200	Click to add supervisor comment:
EX "e": 2010-11-27 15:51 +0200	Click to add supervisor comment:
EX "w": 2010-11-30 19:28 +0200	Click to add supervisor comment:



### Tracking Non-Conformities

SafeEx creates two columns of comments. One being what the inspector has noted during inspection, and second, the supervisors comment, what action he applied. That way our customers are able to follow the flow in the inspections.

### Report

SafeEx automatically generate a report, containing

- A list of all non-conformities with inspector/supervisor comments
- Business intelligent system – history log
- SafeEx point rating system
- Recommendations
- Etc.



The software is developed to the known PDAs certified for zone 1 and 2. The solution enables your personnel to electronically register all answers/non-conformities to the inspection. Later this information will automatically be uploaded to the maintenance system.



The RFID is mounted as your guarantee that the Inspector has been at the equipment. The first time the RFID is mounted the Chip will be associated to the tag-number. The next time its automatically recognized.



## Ex-Registration - Newbuildings

SafeEx Registration Software re-use already entered data, and saves more than 50% on man hours.

Registration software for newbuildings is SafeEx latest development. This is a very unique product saving 50% on manhours. The large savings is due to a very high possibility of reusing data. In most cases it is possible to reuse around 80% of the entered data.

### Registration – New Build

#### Save 50% time

During construction all equipment needs to be registered. SafeEx registration software module automate this to registered SafeEx registration software, atomizes this process and saves you about 50% on you time consume.

On a Rig, Platform or FPSO, there are few model numbers and a large number of the same models. This means that you reuse about 80% of all data, and instead of manually entering data when finished, you automatically upload the data to your Ex-Register, saving at least 50% of your time consume.

Tag: 73-lm-72245

Tag name	73-lm-72245
Rfid	1111111
Serial number	PRGE234801
Area name	Engine room
Model name	

Cancel Ok

#### Registering data

When entering model number, the database recognize the model, and all data is taken from the database. The only data needed to be entered is the Tag No and the Serial number.

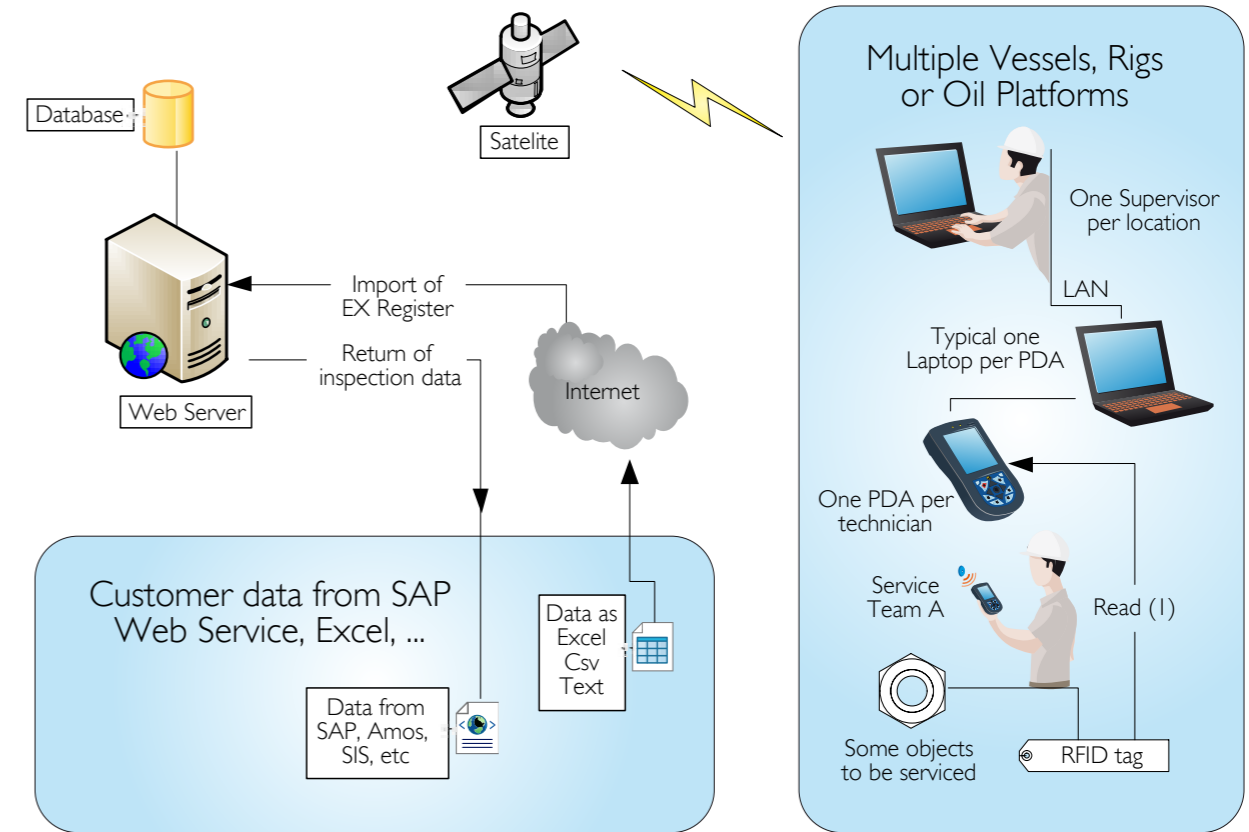
#### Automated text recognition

Automated text recognition makes it easy to add new information.

#### Registering all types of data

SafeEx Registration Software can be fitted to your needs and can be used for all types of registration, and all types of units. You can use SafeEx Registration Software on both newbuildings and operating units.

## The SafeEx Solution



## Training

### SafeEx offers two levels of training



**SafeEx Certificate:** The course is aimed at supervisors, and is a three days course. The user will be able to use the system easily and professionally, knowing all the features of the SafeEx software, in theory and in practice.

**Inspector Course:** This course gives the attendees the theoretical and practical knowledge to use the PDA for inspections. It is advised that at least one person, preferably two persons, per unit has the supervisor course, and the rest can do with the inspector course

**Management course:** Management will receive a three hours course, that will make them able to access all data at any time.

**Supervising Start up:** To ensure that SafeEx will be well received onboard, it is possible to have a SafeEx supervisor on board the first couple of months, to make sure the implementation is done properly.





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