**Empower**

SESP looks after 4 activities in Empower:

1. **Roll out** 2. **Trouble shoot** 3**. Stocking taking (ware-house control)** 4. **Meter reading.**

**Empower Domains**: Kerva, Porvoo, Ves and Ksoy.

**Planning**: 3 types of planning.

1. **Area Planning**: Here mile-stone (target) area is selected for the work order to perform.
2. **Technical Planning**: Here we plan for any devices required along with their specification.
3. **Order planning**: Here we plan for the total order required for the total work along with time.

**Work order**: It is the job that is required to be done which is either generated by utility company (Meter roll out, meter change, meter trouble) or SESP(remote service call). Some of the key fields in work order file are :

**Work\_order\_id, work\_order\_type, accessible\_to\_technician, Address\_info\_customer, type\_Area, sla** (earliest\_start\_date, earliest\_finished\_date, late\_start, late\_finish).

**Smart meter**: A meter where 2 way communication is possible. That is it can receive new request or order and also can send us back the feedback or alarm. Request which it can receive like remote service call. And response it can generate is like remote service successfully executed, meter data sending automatically after a certain period of time,etc.

**Events In smart meter**: These are triggered during certain abnormality or regarding any response to remote service call. Abnormalities like low voltage, device error, low current etc.

A smart meter has 3 properties:

**Register**:

A+= Active consumption (power delivered from utility company is used by client).

A-= Active production (power produced like solar, hydro etc from by client used by itself).

R+=Reactive production.

R-=Reactive consumption.

**Tariff**: It specifies the type of consumers, purpose of energy consumption (domestic or household) according to which rate will be charged.

**Resolution**: It determines the period after which meter reading data will be sent. It can be 15 min (minimum most), hourly and daily.

**Head End System:** A complex System from where meter reading is fetched by sesp. It generates an XML file which contains detailed description about meter info and meter reading. This system is not managed by SESP.

Now collection type can be of 2 types:

**Sporadic**: SESP req data from HES.

**Periodic**: HES send data to SESP after a defined period.

**Unique device**: A device which can identified by special serial number .e.g. smart meter

**Bulk device**: The device falls under a group which has a special serial number. E.g. cable

**Case:** It is an instance of case\_type. It is generated whenever any operation is required to be done through SESP. Like there can be 100 meter troubleshoot work orders. So each of the meter trouble shoot is a case. Each of these case follows through some steps, known as case\_action flow, which are generic for a certain case type.

SESP can track the progress the of each case action flow through these values in database, known as case status.

**Case status** are:

Scheduled, In progress, closed, cancelled and error.

Case Result: The out of any case have 3 types:

**Performed, Not performed** (here reattempt can be made to perform) and **Not performed Final**(After several not performed the case is permanently closed).

Cases result tagged as error and cancelled can’t be performed.

The case generated by SESP is known as **parent case**. This copy is not at all sent directly to Field Company. Rather a **child case** is generated and sent to Field Company. To maintain security and original doc can’t be tampered.

**Roll out:** it means old meters are replaced with an upgraded meter.

**Meter change**: Damaged meters are replaced with new once.

**Remote Service Request**: These are the commands which can be provided to smart meters without physically handling them. Like through wireless or wired command from any remote location.

**3 types of Remote Service Request are possible**:

**Connect**(meter connection available), **disconnect**(electrical connection is terminated) and **product change**(tariff or resolution of smart meter can be changed).

Unit e-r diagram:

Unit type

1

\*

Unit Model

1

\*

Unit

**Unit Type**: It represents the characteristics of the unit. Example Mobile, ipad, tablet etc.

**Unit Model**: It represents the class Of each unit type. E.g. Apple Iphone x, Samsung galaxy 10 etc.

**Unit**: It is the actual object of unit Model. Example Each of the handset produced with IEMI number of Iphone 10.

So One unit Type can have more than one unit Model. And similarly One unit Model can have more than One unit.

**Deviation**: It explains the way away from normal. Like there are many vacation house in Sweden. So during the customer is in the house then meter would be active. But when they are absent then through a remote call SESP can disconnect the meter of the house. So in that period the meter reading will be 0. And these meters will be flaged, So that any SLA brich can be avoided.

‘\*’ (means more than 1) in diagram.

**Domain**: Since SESP is using single data base inside it is storing all its vendors’ data, so there must be a logical separation and the data is visible to the specific vendor only. Also, the parent company can see the child company’s data but in general reverse is not possible. So this is achieved through creation of domain.

**Some Area types:**

**Operational Area**: Geographical area where Automatic Meter Reading is managed.

**Service Area**: Geographical area where Operation is managed.

**Mile stone Area**: Geographical area where W.O. is carried out.

**Net Area**: Geographical area where installation data is bought.

**Work flow inside transaction server:**

Correct collection System

Utility

Export ready the result

msg generate after processing

Start Solving

Create msg+ generate case\_Id

File import

**Typed data**:

Any Data from where we can get the variety of data is known as type data. E.g. case\_type, it explains the variety of cases under it. Which can be meter installation, meter roll out, meter trouble shoot, etc.

Any Table Name ending with ‘**tto**’ describes the type data containing inside it.(tto= typed table object)

**Factory File:** A file having details about new devices are coming from the manufacturer. These are stored in database. This file data is imported during new meter installation or roll out.

The fields it contains are:

**Model\_type, GIAI, Production\_Date, Confuration\_id, Hardware\_version, software\_version. etc**

**Distribution:** After the field order is generated then the task will be allotted to a particular technician to do. So the selecting criteria is based on the field technicians experience and knowledge.

**Release:** The distribution field order is converted to field order and send to respective technician.

Above 2 phases are carried out after **planning phase** of “case flow” is done.

Installation Tab in portal:

It contains details about the measure point coordinate, Milestone area, Net Area, Service Area, Accessible to technician

Case\_Sla table: It stores the start date and end date of the particular case, within which it has to be solved.

It stores the early start, early end, late start and late finish dates for a particular project.

**How To check that which meter are in deviation:**

Open client portal, then click on **windows** tab, then click on **non-communication** window tab.

Select a domain, and select the radio button(top right position) “**has valid measure point deviation**”, then search. Then check on field **“ Measure point status**” if it shows **active** that means meter is working but it is in deviation.

How to check Work order-overview:

**Overview window:**

Click on **windows** tab then overview tab.

* **Work Order overview**: Shows over all numerical facts about the number of work orders w.r.t case status. Filter can be applied to show work orders with reference to any particular domain or date interval or case type.
* **Case Over view**: Shows over all numerical facts about total no. of cases and total number of tasks. Filter can be applied w.r.t Domain.
* **Task Overview**: Shows over all numerical facts about total no. of tasks, task status, related case ID, case Type, etc.

**Pallet**: It is a packed item container consisting of various items like meter, wires, antenna etc. which are generally used for transportation of goods from one place to another.

**Pallet status**: Activated, created, received and sent.

**Stock**: Storage site for goods. **Central stock** site, **local** stock site, **service** vehicle etc.

**Iskraemeco:**

Files:

2 types of files are able to process here:

**Factory file**: File containing details of device. It only contains **unit model** and **serial number**.

**Work Order File**: Containing only 2 information only. One is **Field Company** and other is **work order type**. The type of file is Xls(excel).

This work order file misses various info like Area location, meter information, customer information etc. which are collected by filed technician through android app.

**Data Base**: Microsoft sql server.

Utility

Manually search for defect units

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Sesp Platform

Trigger

Trouble shoot

Manual Import of work order

Auto distribution and release to field company.

Csv file

DB

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Manual Distribute And release.

Field technician

Field company operator

Save

Android app

**How to import a file in Iskra:**

* In the desktop client or local client page, click on **tools**, then **Manual import**.
* Browse the file from local desktop location, then select the type of file importing, Check in Domain field “**Egypt**” is coming.
* Then click on “**preview**” to see the file before importing.
* The finally click “**start import**”.
* The “**Entity Created**” pop up will appear. Select “**open file**”.

After the case is created then click on the “**message tab**”. Then pick up one case, right click on it and select case.

The **top green color case** icon is the parent case and the **lower green icon** is the child case. [Both should have status “**in progress**”.]

In the “**events**” tab, we can find on left side, details about **distribute and release**.

**Assign the field case :**

* Follow the import file steps.
* After the case is created then click on the “**message tab**”. Then pick up one case, right click on it and select case.
* Then click on “**window**“tab present on top menu bar. And click “**assign\_wo\_window**” tab.
* The assign window pops up with map loaded. Type the “**child case**” id in the “**case id** “tab. And enter.
* The window shows the list of **technician** working in the field company(name mentioned in the wo xls file).
* Click on the technician name. and click on “**Assign**” tab(bottom right of the window).
* At this point we can cancel the assignment. By click on the “**recall**” tab, present in “**Mode**” window.
* Or can confirm our selection of technician by clicking “**Assign**” TAB, IN “**mODE**” WINDOW.
* Start Android studio.

**Administration:**

In desktop client. Goto Tools → Administration.

1. Domain Administration(adding domains):

* In Administrator tab inside Tools, click on **Domain administration**.
* Click on the **green** colour button (Top right).
* Then enter the domain name and etc. and click on **create**.
* Select the checkboxes ‘**Data domain**’ or/and ‘**Installation register exists**’ and add visible domains.
* Lastly, click the **Save** button to persist the changes to SESP database or click the **Reset** button to clear all the field values.

1. Company Administration(Adding field company):

* Tools → Administration → Company Administration.
* To create a company, for instance, a field company, click on the green color button.
* To add a company, provide details like ‘Company name:’, ‘Code:’, ‘Domain:’ and click the **Save** button.
* After the company is created, select it from the list of companies and provide ‘Company type:’ and available domains that are visible to the company from the ‘Visible domains’ tab.
* Finally Click on save.

1. User Administration(Adding user for desktop client):

* Tools →Administration →User Administration.

**Rollout and trouble shoot** only performed in iskra.

Rolls of Users In Iskra:

There are 4 roles:

* **Admin:** The administrator role can perform all activities of system configuration, central operations, field work order execution and access to web client application.
* **Operator:** This role is for operational purposes like factory file import, work order file import, raising troubleshoot case, assigning work orders to field technicians, verification of performed field work orders, rejecting a performed field work order and re-assigning to a field technician among other things.
* **Field Technician:** To perform the field work order.
* **Web user:** The role gives access to the SESP web client application which is a reporting platform.

**Retrofit file—moulindra da**