**Documentation Pandora ERP system.**


**6. Works and financial accountability.**

The tables will be printed only for external works.

**Internal works.**


*Budgeted costs:*
The budgeted costs and working hours are determined by the clustercalculation
See here the Documentation **4. Calculation, material, work rates and services.**
The working hours are split up in setup hours and hours / piece. The costs of work charge are
determined by setup hours + piece hours * amount * surcharge factor.
The surcharge factor is the field tarieffactor in table params, belonging to the relevant employee
pay group.
See table lonen field werkuur and params.
Thurdermore the materials + storage surcharge (table params) used are calculated.
Profit is already calculated in tarieffactor table lonen werkuur.
For **Actual Costs** and other information see **External works**, for is likewise except services
(diensten)

**External works.**

**Table werken:**

```
bisystem=# \d werken
                         Table "public.werken"
      Column        |          Type          | Collation | Nullable |       Default
--------------------+------------------------+-----------+----------+----------------------
 werknummerID       | integer                |           | not null |
 werkomschrijving   | character varying(50)  |           |          |
 aanneemsom         | double precision       |           |          | 0
 kosten_lonen       | double precision       |           |          | 0
 kosten_materialen  | double precision       |           |          | 0
 kosten_inhuur      | double precision       |           |          | 0
 kosten_leiding     | double precision       |           |          | 0
 kosten_huisv       | double precision       |           |          | 0
 kosten_overig      | double precision       |           |          | 0
 meerminderwerk     | double precision       |           |          | 0
 voortgangstatus    | character varying(1)   |           |          |
 statusweek         | character varying(6)   |           |          |
 betaald_bedrag     | double precision       |           |          | 0
 begr_huisv         | double precision       |           |          | 0
 begr_leiding       | double precision       |           |          | 0
 begr_overig        | double precision       |           |          | 0
 begr_constr_uren   | double precision       |           |          | 0
 werk_constr_uren   | double precision       |           |          | 0
 begr_mont_uren     | double precision       |           |          | 0
 werk_mont_uren     | double precision       |           |          | 0
 begr_retourlas_uren| double precision       |           |          | 0
 werk_retourlas_uren| double precision       |           |          | 0
 begr_telecom_uren  | double precision       |           |          | 0
 werk_telecom_uren  | double precision       |           |          | 0
 begr_bfi_uren      | double precision       |           |          | 0
 werk_bfi_uren      | double precision       |           |          | 0
 begr_bvl_uren      | double precision       |           |          | 0
 werk_bvl_uren      | double precision       |           |          | 0
 begr_spoorleg_uren | double precision       |           |          | 0
 werk_spoorleg_uren | double precision       |           |          | 0
 begr_spoorlas_uren | double precision       |           |          | 0
 werk_spoorlas_uren | double precision       |           |          | 0
 begr_reis_uren     | double precision       |           |          | 0
 werk_reis_uren     | double precision       |           |          | 0
 kosten_vervoer     | double precision       |           |          | 0
```

```
 beton_bvl          | double precision   |          |         | 0
 kabelwerk          | double precision   |          |         | 0
 grondverzet        | double precision   |          |         | 0
 kosten_materieel   | double precision   |          |         | 0
 begr_inhuur        | double precision   |          |         | 0
 begr_vervoer       | double precision   |          |         | 0
 begr_beton_bvl     | double precision   |          |         | 0
 begr_kabelwerk     | double precision   |          |         | 0
 begr_grondverzet   | double precision   |          |         | 0
 begr_materieel     | double precision   |          |         | 0
 begr_materialen    | double precision   |          |         | 0
 begr_lonen         | double precision   |          |         | 0
 startweek          | character varying(6)  |       |         |
 opdracht_datum     | character varying(10) |       |         | ''::character varying
 begr_voeding_uren  | double precision   |          |         | 0
 werk_voeding_uren  | double precision   |          |         | 0
 calculatienummer   | integer            |          |         | 0
Indexes:
    "werken_pkey" PRIMARY KEY, btree ("werknummerID")
Referenced by:
    TABLE "dienstenmutaties" CONSTRAINT "werken_WerknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
    TABLE "artikelmutaties" CONSTRAINT "werken_werknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
    TABLE "orders_inkoop_diensten" CONSTRAINT "werken_werknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
```

## Table wnrwrkln:

```
bisystem=# \d wrkwnrln
                        Table "public.wrkwnrln"
      Column       |         Type          | Collation | Nullable |        Default
-------------------+-----------------------+-----------+----------+----------------------
 wrkwnrurenID      | integer               |           | not null |
 werknemerID       | integer               |           |          |
 boekdatum         | character varying(10) |           |          | ''::character varying
 aantaluren        | double precision      |           |          | 0
 werknummerID      | integer               |           |          |
 bruto_loonbedrag  | double precision      |           |          | 0
 meerwerkstatus    | boolean               |           |          | false
 soort             | character varying(15) |           |          | ''::character varying
 tabelloon         | double precision      |           |          | 0
 reisloon          | double precision      |           |          | 0
 loonID            | integer               |           |          |
Indexes:
    "wrkwnrln_pkey" PRIMARY KEY, btree ("wrkwnrurenID")
Foreign-key constraints:
    "lonen_loonID_fkey" FOREIGN KEY ("loonID") REFERENCES lonen("loonID")
    "werknemers_werknemerID_fkey" FOREIGN KEY ("werknemerID") REFERENCES werknemers("werknemerID")
```

## Table materiaallijsten:

```
bisystem=# \d materiaallijsten
                        Table "public.materiaallijsten"
       Column        |         Type         | Collation | Nullable |        Default
---------------------+----------------------+-----------+----------+----------------------
 matlijstID          | integer              |           | not null |
 calculatie          | integer              |           |          |
 artikelID           | integer              |           |          |
 hoeveelheid         | double precision     |           |          | 0
 artikelprijs        | double precision     |           |          | 0
 subtotaal           | double precision     |           |          | 0
 resterend           | double precision     |           |          | 0
 afroep              | double precision     |           |          | 0
 icalculatie         | integer              |           |          | 0
 werknummerID        | integer              |           |          | 0
 categorie           | integer              |           |          | 0
 reserverings_datum  | character varying(10)|           |          | ''::character varying
 orderinkoopID       | integer              |           |          | 0
 levertijd_begin     | character varying(10)|           |          | ''::character varying
 levertijd_end       | character varying(10)|           |          | ''::character varying
Indexes:
    "matlijstID" PRIMARY KEY, btree ("matlijstID")
    "fki_calculaties.calcID_fkey" btree (calculatie)
Foreign-key constraints:
    "artikelen.artikelID_fkey" FOREIGN KEY ("artikelID") REFERENCES artikelen("artikelID")
```

**Table dienstenmutaties:**

```
bisystem=# \d dienstenmutaties
                    Table "public.dienstenmutaties"
    Column     |         Type         | Collation | Nullable |        Default
---------------+----------------------+-----------+----------+----------------------
 mutatieID     | integer              |           | not null |
 werknummerID  | integer              |           |          |
 orderinkoopID | integer              |           |          |
 boekbedrag    | double precision     |           |          | 0
 boekdatum     | character varying(10)|           |          | ''::character varying
 btw_hoog      | double precision     |           |          | 0
 btw_laag      | double precision     |           |          | 0
 leverancierID | integer              |           |          |
 werkomschr    | character varying(30)|           |          | ''::character varying
 regel         | integer              |           |          | 1
 omschrijving  | character varying(50)|           |          | ''::character varying
Indexes:
    "derdenmutaties_pkey" PRIMARY KEY, btree ("mutatieID")
Foreign-key constraints:
    "leveranciers_leverancierID_fkey" FOREIGN KEY ("leverancierID") REFERENCES leveranciers("leverancierID")
    "orders_inkoop_orderinkoopID" FOREIGN KEY ("orderinkoopID") REFERENCES orders_inkoop("orderinkoopID")
    "werken_WerknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
```

*Budgeted Costs:*
The budgeted costs, working hours and services are determined by the clustercalculation
See here the Documentation **4. Calculation, material, work rates and services.**
The surcharge factor on the wages is the field tarieffactor in table params, belonging to the relevant employee pay group.
See table lonen field werkuur and params.
Thurdermore the materials, services and equipment + storage surcharge (table params) used are calculated.
Profit is already calculated in tarieffactor.

*Actual Costs:*

*Muteren materialen*

The quantity of product will be callup with the table materiaallijsten. (bills of materials)
In this lists on other things the callup, delivered en remaining is established
This list is also used by Accountancy.
With this callup a picklist is composed.
In the warehouse the products are picked and send to the workplace.
If the products are picked the reserveringsaldo in the table artikelen and materiaallijsten  is reduced
and the voorraad is reduced in  table artikelen.
The picklist is also reduced. The costs of the products are added in werken table field
kosten_materialen.


*Muteren lonen*

Transactions working hours. Menu Uurverbruik muteren. (Transaction working hours)
The total workrate (wages * rate factor)  per employee is added in the table werken field
kosten_lonen per work. The working hours are added in the field werk_xxxxxxx_uren in the table
werken.
(Whereas xxxxxxx stands for working group)
The employee is linked to the working group, so the hours are booked on the right fields.
It the employee does replacement work, a possibility is present in the table werknemers
(employees) to give a temporarily pay group to the employee, so the internal invoicing remains,
while the payments keep as it is.
The total individual mutations of all  hours (present + absent) per employee per work are added
with the mutation date in the table wrkwnrln. (work-employee-wages)
This table is basis for wages and accounting.
In the table werknemers (employees) the total amount of hours (present + absent)  per employee is
added in the field saldo_uren_geboekt (balance hours booked).

*Muteren Diensten*

## Table orders_inkoop_diensten

```
bisystem=# \d orders_inkoop_diensten
                    Table "public.orders_inkoop_diensten"
      Column       |         Type         | Collation | Nullable |       Default
-------------------+----------------------+-----------+----------+----------------------
 orddienstlevID    | integer              |           | not null |
 orderinkoopID     | integer              |           |          |
 aanneemsom        | double precision     |           |          | 0
 acceptatie_gereed | double precision     |           |          | 0
 acceptatie_datum  | character varying(10)|           |          | ''::character varying
 werknummerID      | integer              |           |          |
 omschrijving      | character varying(50)|           |          | ''::character varying
 plan_start        | character varying(10)|           |          | ''::character varying
 werk_start        | character varying(10)|           |          | ''::character varying
 plan_gereed       | character varying(10)|           |          | ''::character varying
 werk_gereed       | character varying(10)|           |          | ''::character varying
 werkomschr        | character varying(30)|           |          | ''::character varying
 regel             | integer              |           |          | 1
 meerminderwerk    | double precision     |           |          | 0
Indexes:
    "orders_inkoop_diensten_pkey" PRIMARY KEY, btree ("orddienstlevID")
Foreign-key constraints:
    "orders_inkoop_orderinkoopID" FOREIGN KEY ("orderinkoopID") REFERENCES orders_inkoop("orderinkoopID")
    "werken_werknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
```

**Table dienstenmutaties**

```
bisystem=# \d dienstenmutaties
                     Table "public.dienstenmutaties"
    Column     |         Type          | Collation | Nullable |        Default
---------------+-----------------------+-----------+----------+------------------------
 mutatieID     | integer               |           | not null |
 werknummerID  | integer               |           |          |
 orderinkoopID | integer               |           |          |
 boekbedrag    | double precision      |           |          | 0
 boekdatum     | character varying(10) |           |          | ''::character varying
 btw_hoog      | double precision      |           |          | 0
 btw_laag      | double precision      |           |          | 0
 leverancierID | integer               |           |          |
 werkomschr    | character varying(30) |           |          | ''::character varying
 regel         | integer               |           |          | 1
 omschrijving  | character varying(50) |           |          | ''::character varying
Indexes:
    "derdenmutaties_pkey" PRIMARY KEY, btree ("mutatieID")
Foreign-key constraints:
    "leveranciers_leverancierID_fkey" FOREIGN KEY ("leverancierID") REFERENCES leveranciers("leverancierID")
    "orders_inkoop_orderinkoopID" FOREIGN KEY ("orderinkoopID") REFERENCES orders_inkoop("orderinkoopID")
    "werken_WerknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
```

The types of services provided are:
1. Materieel  (Machines)
2. Leiding.    (Leadership)
3. Huisvesting. (Housing)
4. Overig. (Others)
5. Inhuur. (Hiring)
6. Vervoer (Transportation)
7. Beton  (Concrete)
8. Kabelwerk (Cablework)
9. Grondverzet (Earthmoving)

Before transactions are made the budgeted costs from the lines 1 -9 must be ordered by purchasing with the printlist from 'Diensten + Materiëel Bestellijst Printen'  see  the subject in Calculation_material_workrates_and_services.
The purchase-order list  can be printed if the order for the work is optained.

The transactions are stored in:

Table dienstenmutaties, and is approved for payment.
Table orders_inkoop_diensten  (where the field werkomschr refers to the type of services)
and stored in acceptatie_gereed (number) .
Table werken. Costs are added in their respective types of services.

The works are classified in progress stages for financial accountability and control.

These stages are:


A. Work in preparation.
B. Work is started and thirst costs are made.
C. Booked costs have reached 33 % of the contract price (invoice submitted of 33%)

D. Booked costs have reached 50 % of the contract price.
E. Booked costs have reached 75 % of the contract price. (2nd invoice submitted of 33%)
F. Booked costs have reached 90 % of the contract price.   (3rd   invoice submitted of 20%)
G.Work is ready inclusive more / less work. (4th invoice of 14% + more /less work)
H. Work is technical and financial signed off.

With booking of costs is controlled or a change has happened in progressstate of the work and stored with the week of the year (yyyyww), that the changing has occurred.

This data is the base of the financial progress presented with graphs.
Countings are made in the table resultaten.
This countings has to be done weekly in Submenu Management Information, berekenen financiëele gegevens (Calculating Financial data).
The following graphs are present with this data:
Costs budgeted / real
Material budgeted / real
Labour costs budgeted / real
Services costs budgeted / real
Hiring costs budgeted /real
Other services costs budgeted / real
Project costs budgeted / real
Gross profit prognosis / actual
Work in progress value / Payments done
Proceeds / More – less costs

With this states also the bars and pie graph is presented.
Countings are made in the table resultaten_status