

## 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 overhead\_factor table params\_hours , belonging to the relevant employee pay group.

See table lonen (wages) field werkuur (working hour) and params\_hours.

Furthermore the materials + storage surcharge (table params\_finance) used are calculated.

Profit is already calculated in overhead\_factor table params\_hours.

For **Actual Costs** and other information see **External works**, for is likewise except provisional costs (stelposten)

#### External works.

##### Table werken:

bisystem=# \d werken

Table "public.werken"				
Column	Type	Collation	Nullable	Default
werknnummerID	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 wnrwrkl:

```
bisystem=# \d 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 (article lists):

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")

### ***Budgeted Costs:***

The budgeted costs, working hours and equipment hours are determined by the clustercalculation  
The provisional cost

See here the Documentation **4. Calculation, material, work rates and services.**

The surcharge factor on the wages is the field overhead\_factor in table params\_services, belonging to the relevant employee pay group.

See table lonen field werkuur (working hour) and params\_hours.

Furthermore the materials, services and equipment + storage surcharge (table params) used are calculated.

Profit is already calculated in overhead\_factor.

### ***Actual Costs:***

#### ***Muteren materialen (mutation articles)***

The quantity of product will be callup with the table materiaallijsten. (bills of materials)

In these lists on other things the callup, delivered and 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 (reservation balance) in the table artikelen (articles) and materiaallijsten (bills of materials) is reduced and the voorraad (stock) is reduced in table artikelen (articles).

The picklist is also reduced. The costs of the products are added in werken (works) table field kosten\_materialen (cost of materials)

#### ***Muteren lonen (Mutation wages)***

Transactions working hours. Menu Mutate hourly consumption. (Transaction working hours)

The total work rate (wages \* rate factor) per employee is added in the table werken (works) field kosten\_lonen (costs of wages) per work. The working hours are added in the field werk\_XXXXXXX\_uren (work\_XXXXXXX\_hours) in the table werken (works).

(Whereas XXXXXXXX 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).

### ***Mutate provisional costs***

#### **Table orders\_inkoop\_diensten (Provisional costs / provisional sum)**

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 (Provisional mutations)**

```

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 provisional costs provided are:

1. Hiring
2. Housing
3. Direction
4. Transportation
5. Earthmoving
6. Others

Before transactions are made the provisional sum must be assigned from the lines 1 -6

The transactions are stored in:

Table dienstenmutaties, (services mutations) and is approved for payment.

Table orders\_inkoop\_diensten (orders\_purchasing\_services) (where the field werkomschr (description of work) refers to the type of services) and stored in acceptatie\_gereed (acceptance ready).

The costs must be discussed with the client and may not exceed the provisional amount.

Table werken. Costs are added in their respective types of services.

### ***Mutate equipment hours***

**Table orders\_inkoop\_materieel (orders purchase equipment)**



```

bissystem=# \d orders_inkoop_materieel
Table "public.orders_inkoop_materieel"
  Column          | Type          | Collation | Nullable | Default
-----+-----+-----+-----+-----
order_inkoop_materieelID | integer      |           | not null |
leverancierID      | integer      |           |          |
werknummerID       | integer      |           |          |
uren_opdracht       | double precision |           |          | 0
uren_uitgevoerd     | double precision |           |          | 0
bedrag_uitgevoerd   | double precision |           |          | 0
bedrag_betaald      | double precision |           |          | 0
besteldatum         | character varying(10) |           |          | ''::character varying
datum_goedgekeurd   | character varying(10) |           |          | ''::character varying
datum_afgemeld      | character varying(10) |           |          | ''::character varying
datum_betaald       | character varying(10) |           |          | ''::character varying
servicesID          | integer      |           |          |
datum_opdracht      | character varying(10) |           |          | CURRENT_DATE
meerwinderwerk      | double precision |           |          | 0
services_omschr     | character varying(45) |           |          | ''::character varying
bedrag_opdracht     | double precision |           |          | 0
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
status             | integer      |           |          | 0
werk_omschr         | character varying(45) |           |          | ''::character varying
uurtarief           | double precision |           |          | 0
orderinkoopID       | integer      |           |          |
Indexes:
    "order_inkoop_materieel_pkey" PRIMARY KEY, btree ("order_inkoop_materieelID")
Foreign-key constraints:
    "leverancierID_fkey" FOREIGN KEY ("leverancierID") REFERENCES leveranciers("leverancierID")
    "orderinkoopID_fkey" FOREIGN KEY ("orderinkoopID") REFERENCES orders_inkoop("orderinkoopID")
    "servicesID_fkey" FOREIGN KEY ("servicesID") REFERENCES params_services("servicesID")
    "werknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
Referenced by:
    TABLE "materieelmutaties" CONSTRAINT "order_inkoop_materieelID" FOREIGN KEY ("order_inkoop_materieelID") REFERENCES orders_inkoop_materieel("order_inkoop_materieelID")

```

## Table materieelmutaties (equipment mutations)

```

bissystem=# \d materieelmutaties
Table "public.materieelmutaties"
  Column          | Type          | Collation | Nullable | Default
-----+-----+-----+-----+-----
mutatieID         | integer      |           | not null |
servicesID         | integer      |           |          |
werknummerID       | integer      |           |          |
order_inkoop_materieelID | integer      |           |          |
uren_geboekt       | double precision |           |          | 0
boekbedrag         | double precision |           |          | 0
boekdatum         | character varying(10) |           |          | CURRENT_DATE
meerwerkstatus     | boolean      |           |          | false
leverancierID      | integer      |           |          |
orderinkoopID       | integer      |           |          |
Indexes:
    "materieelmutaties_pkey" PRIMARY KEY, btree ("mutatieID")
    "fk_i_l" btree ("leverancierID")
Foreign-key constraints:
    "leverancierID_fkey" FOREIGN KEY ("leverancierID") REFERENCES leveranciers("leverancierID")
    "order_inkoop_materieelID" FOREIGN KEY ("order_inkoop_materieelID") REFERENCES orders_inkoop_materieel("order_inkoop_materieelID")
    "servicesID_fkey" FOREIGN KEY ("servicesID") REFERENCES params_services("servicesID")
    "werknummerID_fkey" FOREIGN KEY ("werknummerID") REFERENCES werken("werknummerID")
    "orderinkoopID_fkey" FOREIGN KEY ("orderinkoopID") REFERENCES orders_inkoop("orderinkoopID")

```

## Muteren materieel (Mutation equipment)

The equipment items are:

1. Trencher
2. Pressing machine
3. Atlas crane
4. Crane Big
5. Mainliner
6. Ballast scraper
7. Wagon
8. Locomotor
9. Locomotive
10. Assembly Trolley
11. Stor mobile
12. Robel train

Transactions equipment working hours. Menu Mutate equipment hours.

The total work rate (equipment item \* rate factor) is added in the table werken (works) field kosten\_equipment item (costs of equipment) per work. The working hours are added in the field werk\_xxxxxxx\_uren (work\_xxxxxxx\_hours) in the table werken (works).

(Whereas xxxxxxxx stands for equipment item)

The total mutations of all hours per equipment item per work are added with the mutation date in the table materieelmutaties. (work-equipment-supplier-employee-amounts)

This table is basis for equipment and accounting.

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

These stages are:

- A. Work in preparation.
- B. Work is started and thirist 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. (2<sup>nd</sup> invoice submitted of 33%)
- F. Booked costs have reached 90 % of the contract price. (3<sup>rd</sup> invoice submitted of 20%)
- G. Work is ready inclusive more / less work. (4<sup>th</sup> 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 progress state 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.

Claculations are made in the table resultaten.

This calculationsBhas to be done weekly in Submenu Management Information, 'Berekenen financiële 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 these states also the bars and pie graph is presented.

Calculations are made in the table resultaten\_status (results status)