

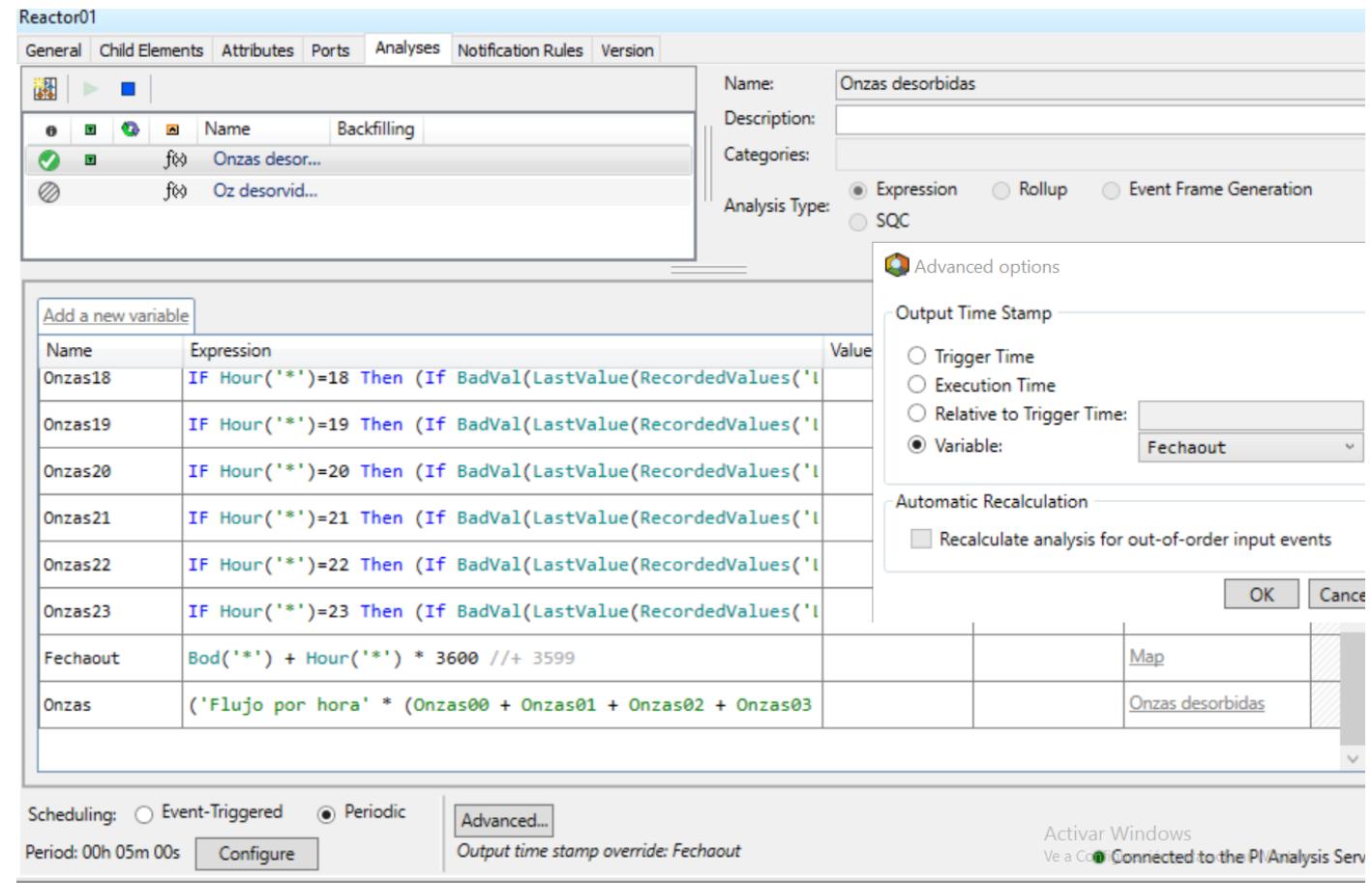
Gold Desorption Monitoring (Pi Asset Framework)

Calculates desorbed ounces based on laboratory samples analyzed in **Labware**.

```
Onzas00 = IF Hour('*')=0 Then (If  
BadVal(LastValue(RecordedValues('LeyAu_Salida  
_00','t','*'))) -  
LastValue(RecordedValues('LeyAu_Estrada_00','  
t','*'))) Then 0 Else  
(LastValue(RecordedValues('LeyAu_Salida_00','  
t','*')) -  
LastValue(RecordedValues('LeyAu_Estrada_00','  
t','*')))) Else 0
```

```
Fechaout = Bod('*') + Hour('*') * 3600 //+ 3599
```

```
Onzas = ('Flujo por hora' * (Onzas00 + Onzas01  
+ Onzas02 + Onzas03 + Onzas04 + Onzas05 +  
Onzas06 + Onzas07 + Onzas08 + Onzas09 + Onzas10  
+ Onzas11 + Onzas12 + Onzas13 + Onzas14 +  
Onzas15 + Onzas16 + Onzas17 + Onzas18 + Onzas19  
+ Onzas20 + Onzas21 + Onzas22 + Onzas23)) /  
31.1035
```



Weighted Ore Grade Analysis (Pi Asset Framework)

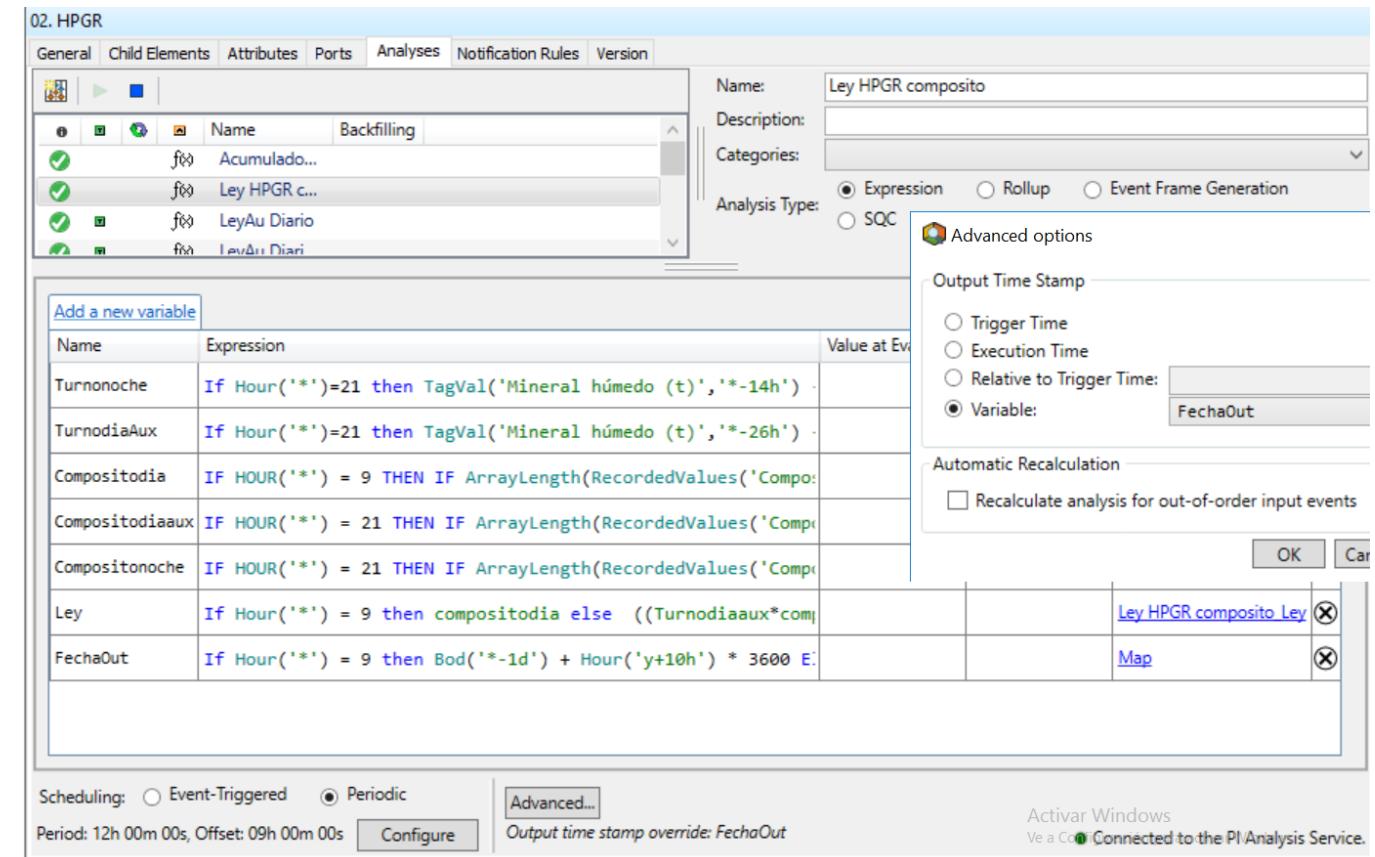
Reports weighted grades for the tertiary crushing process

```
Turnonoche = If Hour('*')=21 then  
TagVal('Mineral húmedo (t)', '*-14h') -  
TagVal('Mineral húmedo (t)', '*-26h') else  
NoOutput()
```

```
Turnodiaaux = If Hour('*')=21 then  
TagVal('Mineral húmedo (t)', '*-26h') -  
TagVal('Mineral húmedo (t)', '*-38h') else  
NoOutput()
```

```
Compositodia = If Hour('*') = 9 then  
compositodia else  
((Turnodiaaux*compositodiaaux) +  
(turnonoche*compositonoche))/(turnonoche+turnodiaaux)
```

```
If Hour('*') = 9 then Bod('*-1d') +  
Hour('y+10h') * 3600 Else Bod('*-1d') +  
Hour('y+22h')* 3600
```



Daily Production Analysis (Pi Asset Framework)

Calculates the quantity of ore processed on a daily basis.

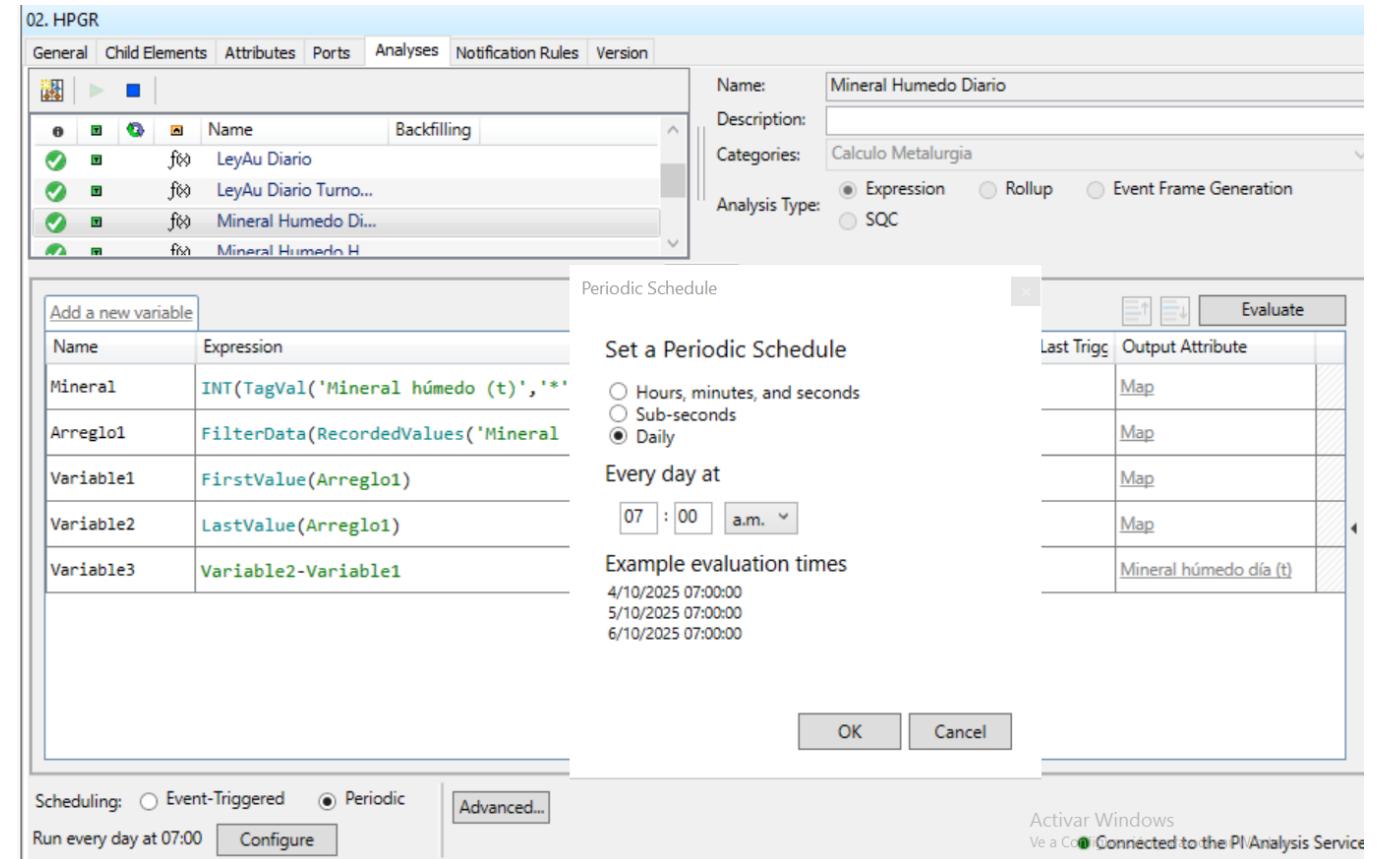
```
Mineral = INT(TagVal('Mineral húmedo  
(t)', '*')) - INT(TagVal('Mineral húmedo  
(t)', '*-1d'))
```

```
Arreglo1 =FilterData(RecordedValues('Mineral  
húmedo (t)', '*-24h', '*'),(NOT BadVal($val) AND  
$val>1))
```

```
Variable1 = FirstValue(Arreglo1)
```

```
Variable2 =LastValue(Arreglo1)
```

```
Variable3 =Variable2-Variable1
```



Low Productivity Events (Pi Asset Framework)

Tracks performance events including duration, date, and time. These events can be used as filters to analyze operating conditions during low-productivity periods.

The screenshot shows the PI Asset Framework interface for configuring a low productivity event named "Baja productividad - Aglomeración (Supervisión)".

General Tab:

- Name: Baja productividad - Aglomeración (Supervisión)
- Description: (empty)
- Categories: (empty)
- Analysis Type: Event Frame Generation (selected)
- SQC: (unchecked)

Event Frame Generation Tab:

- Generation Mode: Explicit Trigger
- Event Frame Template: ThroughputTemplate

Trigger Configuration:

Name	Expression	True for	Severity
mediahora	('Throughput - A1'+'Throughput - A2')<1070	30 minutes	Warning
End trigger	('Throughput - A1'+'Throughput - A2')>=1070		

Advanced Settings:

- Scheduling: Event-Triggered (selected)
- Trigger on: Any Input

Status and Notifications:

- Activar Windows
- Vea el Con...
- Connected to the PI Analysis Service.

Notifications triggered by low productivity events

Aglomeración

General Child Elements Attributes Ports Analyses Notification Rules Version

Productividad <1070 t/h - supervisión - Subscriptions

Name	Configuration	Notify Optic
Juda David Garcia Cutire - E...	HPGR - t/h Supervision	Event start
Maximiliano Saúl Díaz - Email	HPGR - t/h Supervision	Event start
Ruyeli Fernandez - Email	HPGR - t/h Supervision	Event start
Julio Emilio Choque - Email	HPGR - t/h Supervision	Event start
Hector Daniel Acoria - Email	HPGR - t/h Supervision	Event start
Luis Alberto Martinez - Email	HPGR - t/h Supervision	Event start

Contacts
Escalation Te
Groups
Delivery End
Dynamic End
Contacts Se

Baja productividad - Aglomeración (Supervisión) 2025-09-28 02:27:25.038

 Resumir

 [itmansfieldmin@gmail.com](#)

Para: [Eduardo Perez Sangabriel](#)

Dom 28/09/2025 2:53

Este mensaje está en Japonés

Este remitente itmansfieldmin@gmail.com es de fuera de su organización.

 PRECAUCIÓN: Este correo electrónico se originó desde fuera de Fortuna Silver Mines o sus subsidiarias. No haga clic en enlaces ni abra archivos adjuntos a menos que reconozca al remitente y sepa que el contenido es seguro.

Bloquear remitente

Estimados:

Se identificó Baja productividad - Aglomeración (Supervisión) 2025-09-28 02:27:25.038

(Menor a 1,070 t/h) por un periodo sostenido de 30 minutos. Favor de tomar las acciones correctivas.

Inicio	28/9/2025 02:27:25 Hora estándar de Argentina (GMT-03:00:00)
Throughput	<1,070 t/h
Severidad	Warning

 Responder  Reenviar

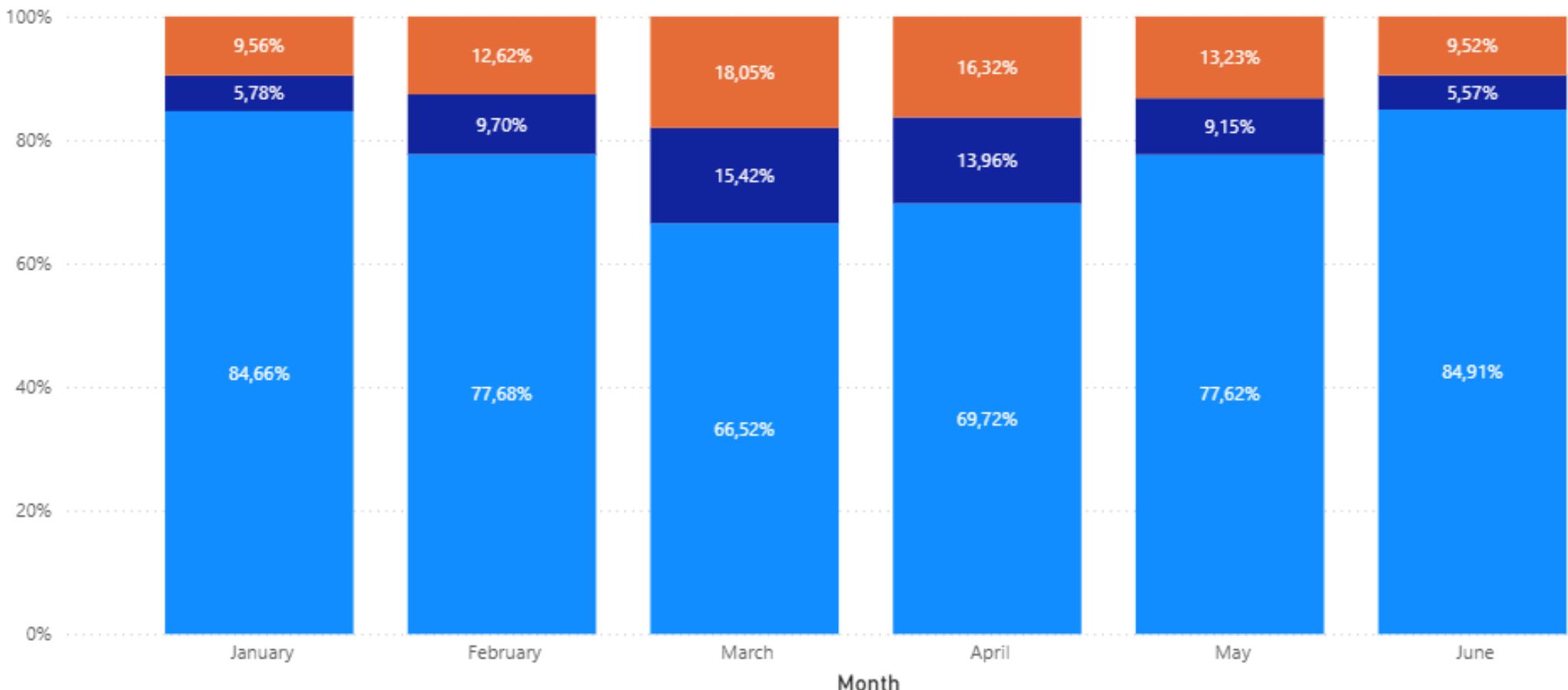
*Notifications are escalated to different recipients depending on how long the low productivity event lasts

Productivity by Category

Evaluates the impact of corrective actions by excluding non-operating periods, allowing for a more accurate productivity assessment.

Primary Crushing Productivity

- ProductividadAlta_SC001
- ProductividadBaja_SC001
- ProductividadMedia_SC001



Equipment Status Event Frames (Pi Asset Framework)

Converts **STATUS tags** from SCADA, originally in hexadecimal format, into binary (0/1) values for downtime analysis.

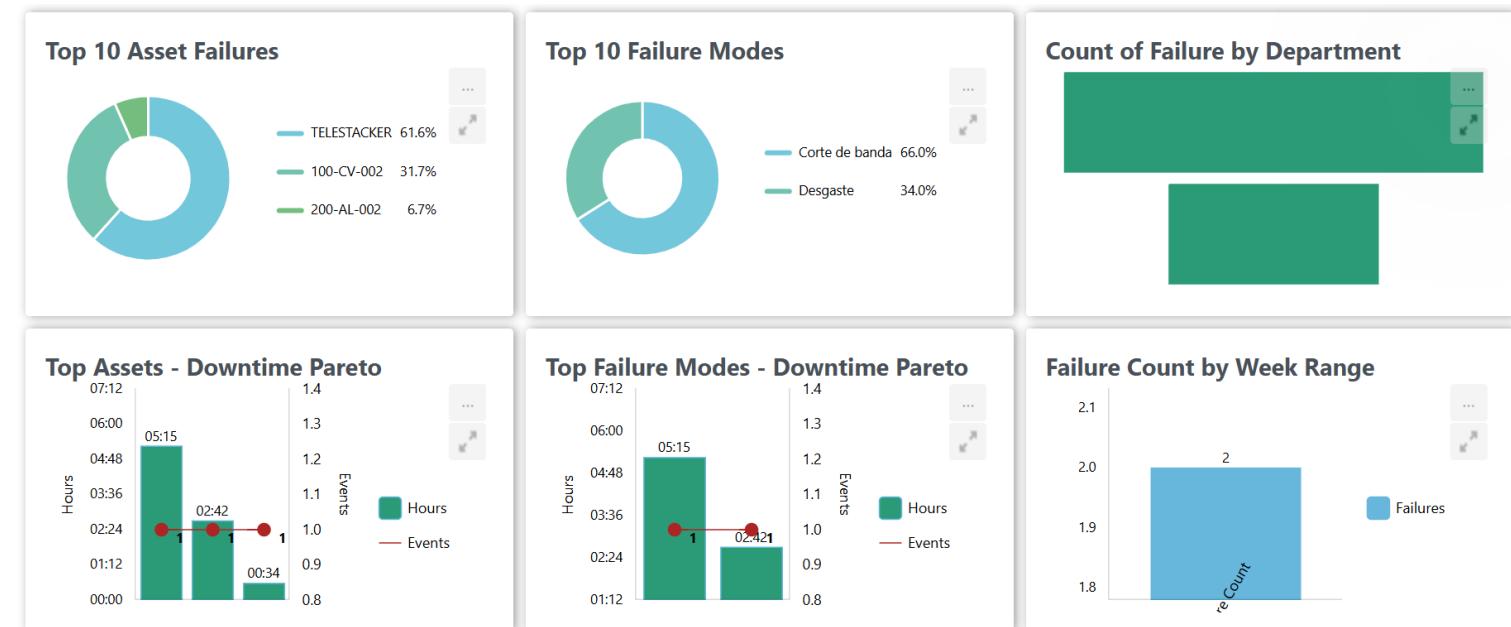
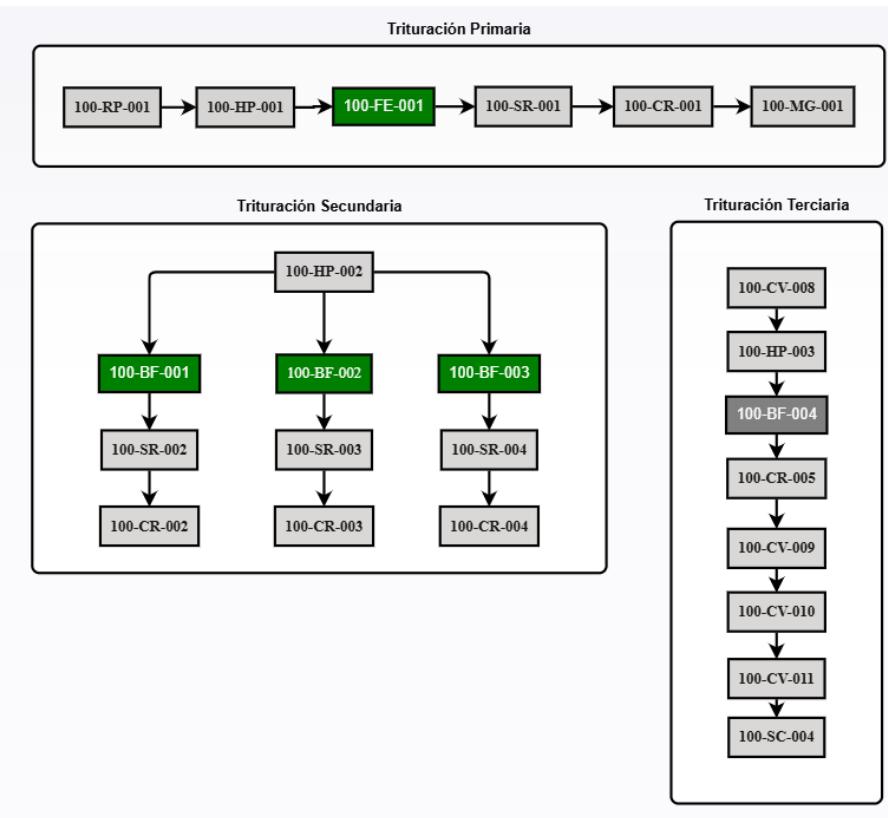
The screenshot shows the configuration interface for an equipment status event frame. The top navigation bar includes General, Child Elements, Attributes, Ports, Analyses, Notification Rules, and Version. The Analyses tab is selected, showing a list of equipment items: 29_200-BF-002, 3_TRITURADORA CÓNICA, and 30_200-CV-004. The main content area displays a table of variables:

Name	Expression	Output Attribute
Variable1	TagVal('ENTRADA 200-BF-002', '*')	Map
Variable2	Int(Variable1)/Int(128)	Map
Variable3	Int(Variable2) Mod Int(2)	Map
Variable4	If Variable3 = 1 then 1 Else 0	SALIDA 200-BF-002

At the bottom, the Scheduling section is set to Event-Triggered, and the Trigger on dropdown is set to Any Input. There is also an Advanced... button. A message at the bottom right indicates the service is connected to the PI Analysis Service.

Downtime Analysis Integration

Event Frames generated from equipment status serve as inputs for third-party applications such as *Downtimes*. This enables comprehensive reporting and analysis of equipment performance.



Downtimes – Piper Solutions 2025