TeleControlNet

Inter Act
industrial automation

“Asset Management”

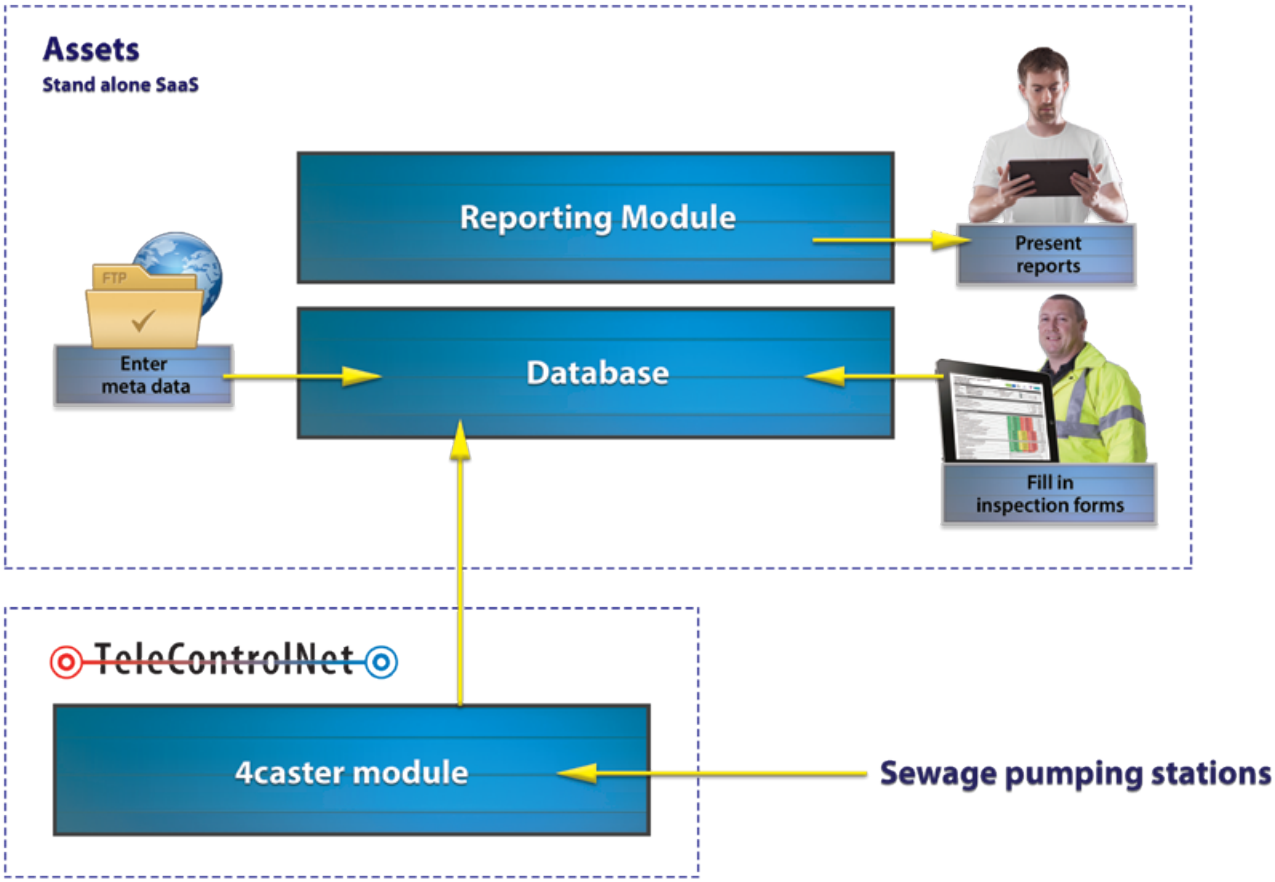
All in one: register, analyze, reporting and forecasting

Introduction

With Inter Act's asset management system, called Assets, malfunctioning, maintenance work and inspections at installations and measuring locations are registered. The registered reports can be presented to responsible asset managers via the internet.

Assets can be used as a stand alone SaaS or as an integral part of the TeleControlNet.

As part of TeleControlNet, Assets can be linked to the forecaster module "4caster".
This module sends periodic quality reports of sewage pumping stations to managers.
The 4caster can indicate the maintenance requirements of pumping stations, resulting in condition-based maintenance. In this way, considerable savings can be made compared to periodic maintenance.



Assets: as a stand alone SaaS, or in TeleControlNet linked with 4caster

Assets is based on input forms and output reports. Inspection forms are locally entered by maintenance staff as templates and uploaded to a protected domain in the SaaS. There are several forms available, which can be configured according to user's wishes.

The entered forms are registered in a central database. From there it is processed into reports for the administrator. The forms and reports can be consulted at any time.

All forms and reports are stored for a longer period of time and can also be combined with meta data from other sources and saved. This creates a clear overview over time about the behavior and condition of all connected assets.

By applying Assets in a TeleControlNet environment with telemetry objects, there is a tight integration with the core data of the connected installations, which means more analysis options become available with the 4caster.

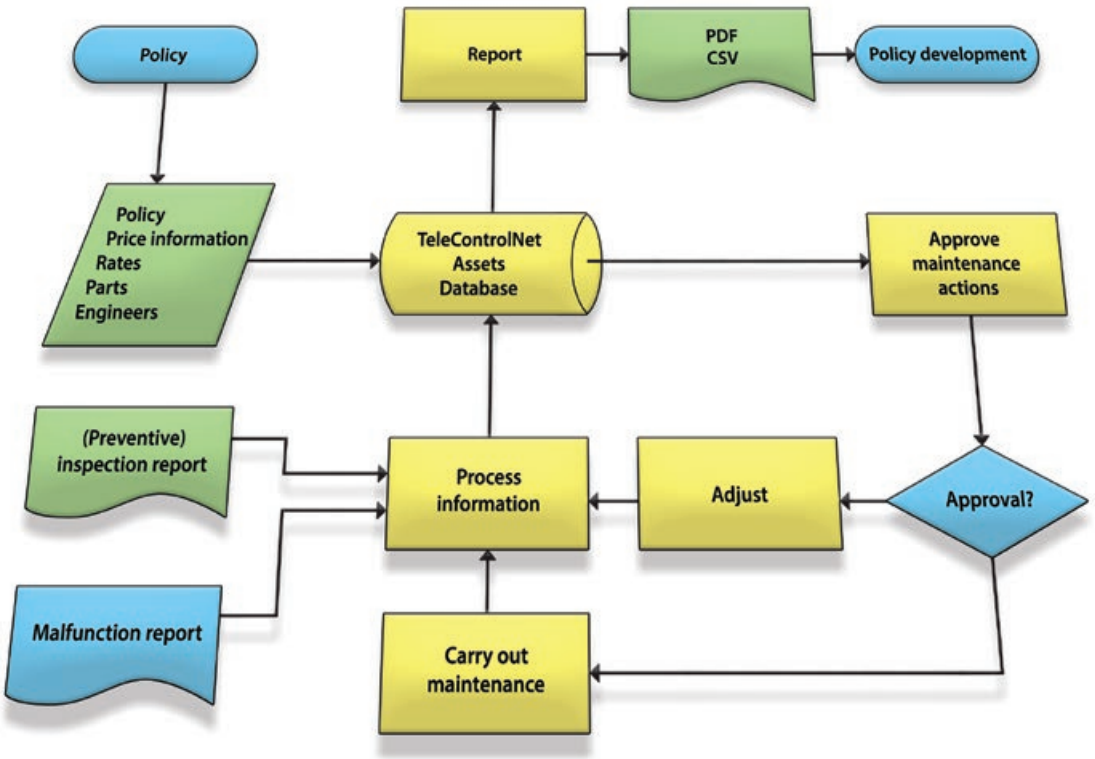
The features of assets

Main features
The features of Assets, as standalone SaaS, are listed below:
- Entering inspection and fault forms, processing and storing.
- Monitoring rounds of inspection, monitoring follow-up actions and intervention in the event of identified shortcomings.
- Obtaining detailed insights into the maintenance status of installations.
- Centralized storage and consultation of work instructions.
- Registering the replacement of parts and storing this information over a longer period (> 5 years).
- Providing insight into maintenance costs and timely signaling budget overruns.
- Creation of management reports that support the development and implementation of policy.

Platform independent
As a web-enabled module, Assets is platform independent and works on smartphones, tablets, laptops and PCs under almost any modern browser.

Suppliers and Third Parties
Within Assets it is possible to provide multiple parties with access and to have them work together. Think of suppliers, maintenance parties and administrators.

Exchange possibilities (meta) data
Assets works according to an open database structure. Data can be exchanged via API, or be offered in CSV files. Supported output formats are CSV and PDF files. To clarify the Assets concept, the data-flows in Assets are visualized in the diagram below.



Simplified assets process diagram

With the help of the forms entered on location, various reports can be generated for administrators. The reports contribute to more efficient asset management and policy.

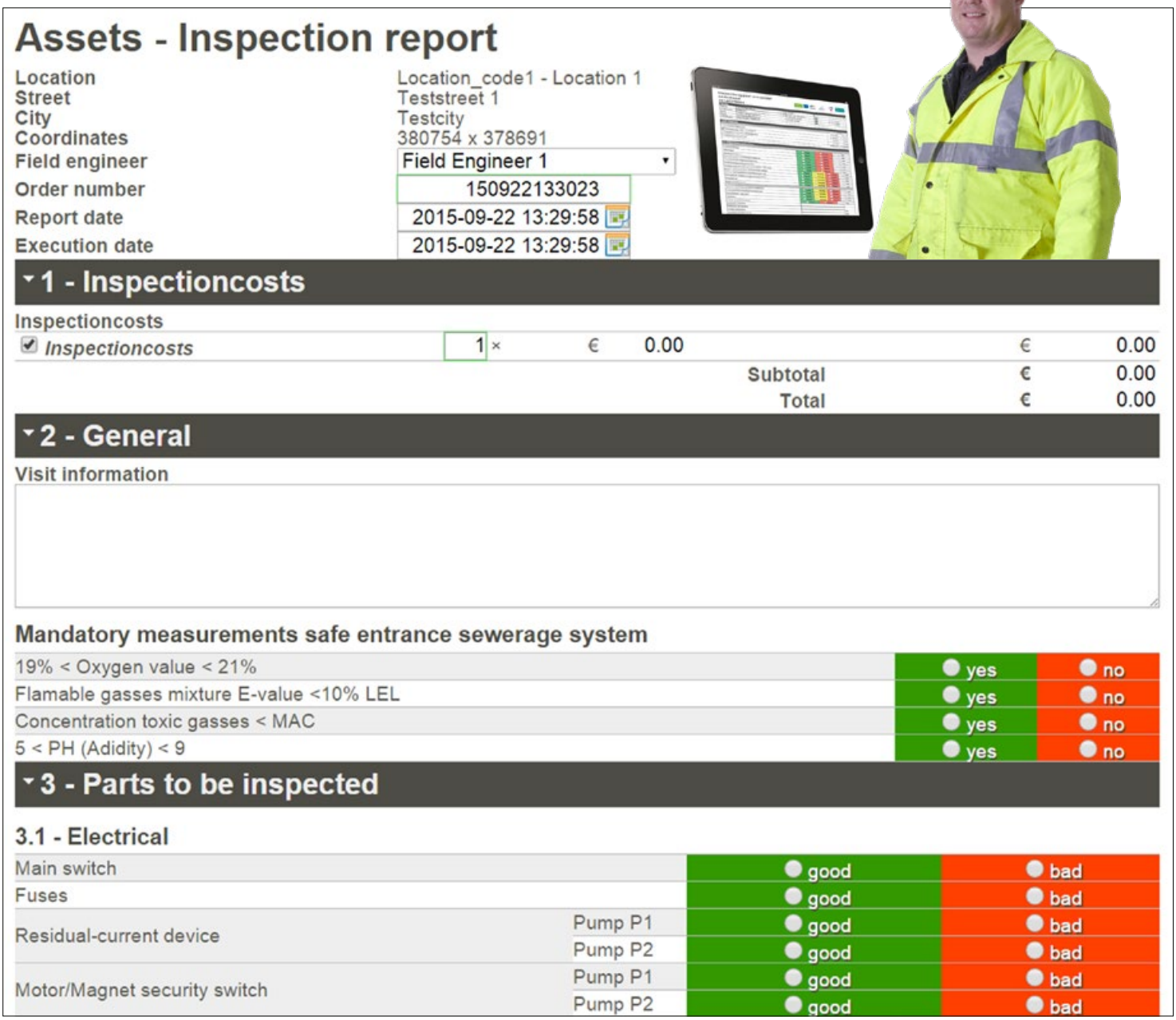
The administrators reports can, for example, relate to the speed at which faults occur remedied, the maintenance costs incurred, or, for example, the depreciation of parts of objects.

Entering Reports and meta data

With Assets different types of forms can be uploaded to the SaaS, dependant on the user requirements. Various standard forms are available with predefined values and coloring.
Also scales and colors can be adjested. How these forms are structured is different per user group.

The forms are filled in on location by a maintenance technician. These are then stored centrally in the SaaS and processed into reports that can be consulted immediately or at a later time.

For more information about tailor-made reports you can contact us via info@interact.nl.



Assets - Inspection report

Location	Location_code1 - Location 1
Street	Teststreet 1
City	Testcity
Coordinates	380754 x 378691
Field engineer	Field Engineer 1
Order number	150922133023
Report date	2015-09-22 13:29:58
Execution date	2015-09-22 13:29:58

1 - Inspectioncosts

Inspectioncosts

Inspectioncosts	1	×	€	0.00	€	0.00
				Subtotal	€	0.00
				Total	€	0.00

2 - General

Visit information

Mandatory measurements safe entrance sewerage system

19% < Oxygen value < 21%	yes	no
Flamable gasses mixture E-value <10% LEL	yes	no
Concentration toxic gasses < MAC	yes	no
5 < PH (Adidity) < 9	yes	no

3 - Parts to be inspected

3.1 - Electrical

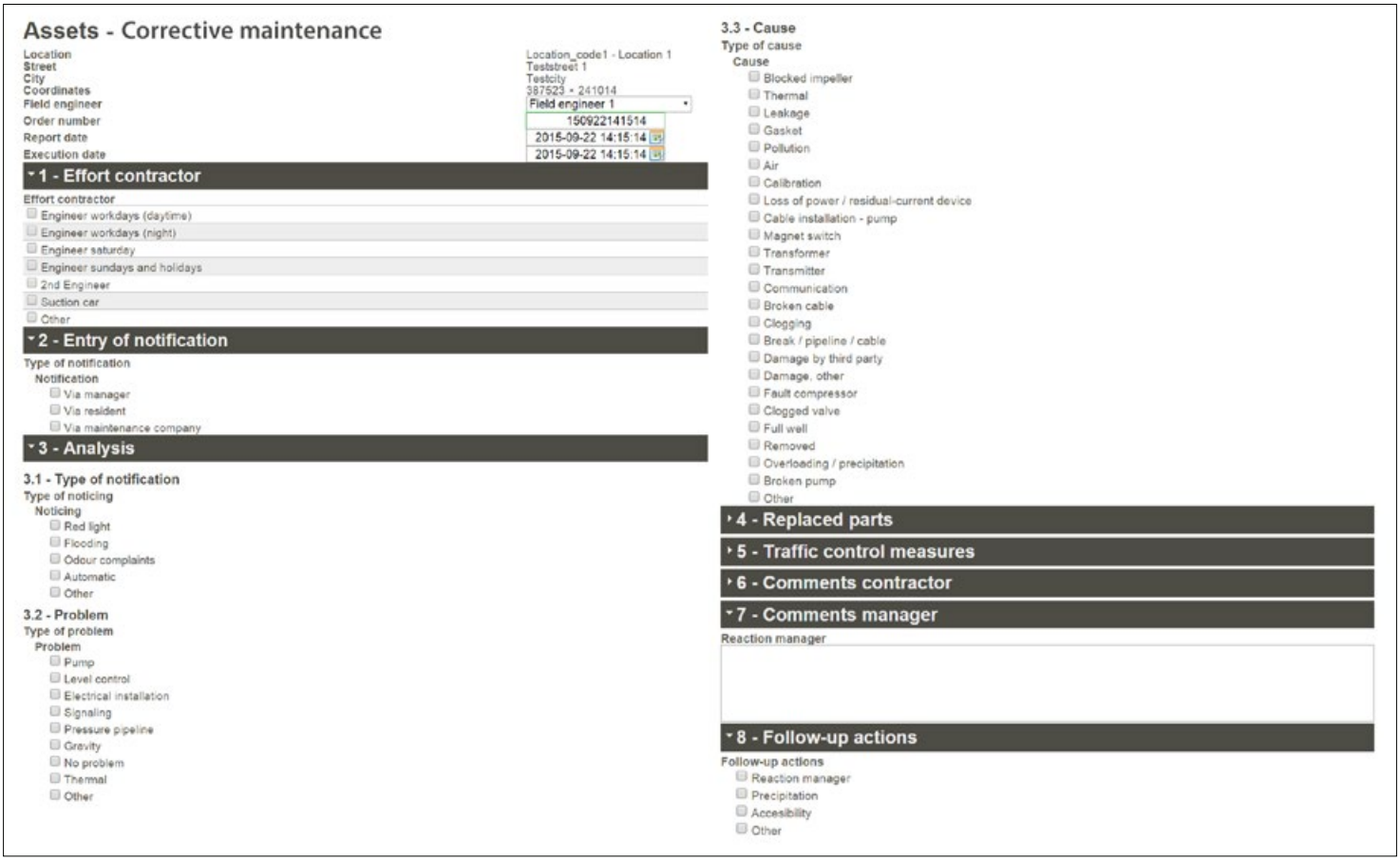
Main switch		good	bad
Fuses		good	bad
Residual-current device	Pump P1	good	bad
	Pump P2	good	bad
Motor/Magnet security switch	Pump P1	good	bad
	Pump P2	good	bad

Example of an inspection form

In an inspection form, as shown on the previous page, each part of the object (electrical, mechanical, architectural, etc.), can indicate in what condition it is. The colors in the form clarify and visualize the values. It is also possible to add metadata such as photos to complete the form for reporting.

There is space for comments and remarks and also the costs of the inspections are kept up to date.
The image below is an example of corrective maintenance form.

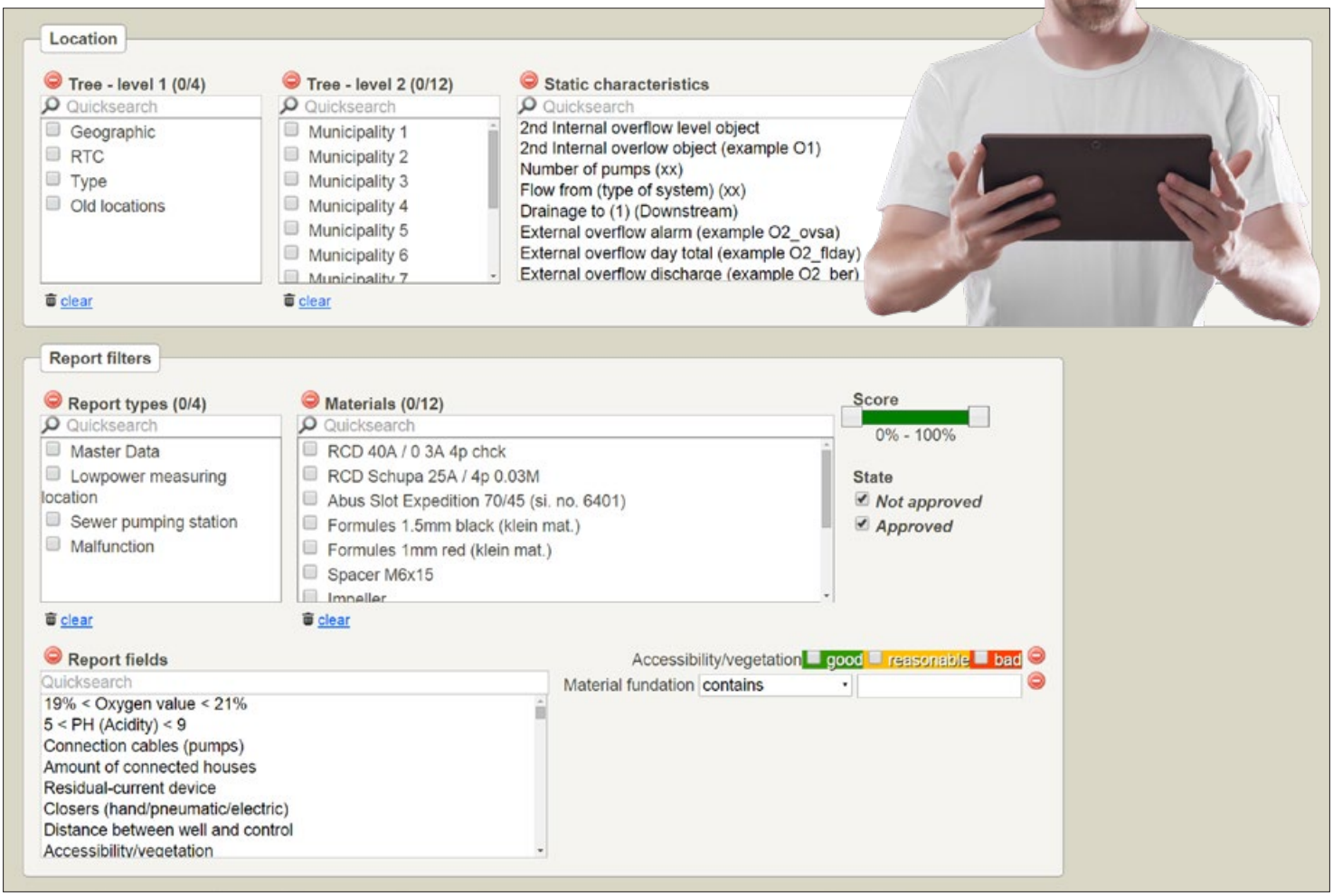
This form makes it easy and clear to indicate what the cause of the malfunction was and how it was resolved. The used materials can be imported so that the costs being made are immediately visible.



Example of a corrective maintenance form

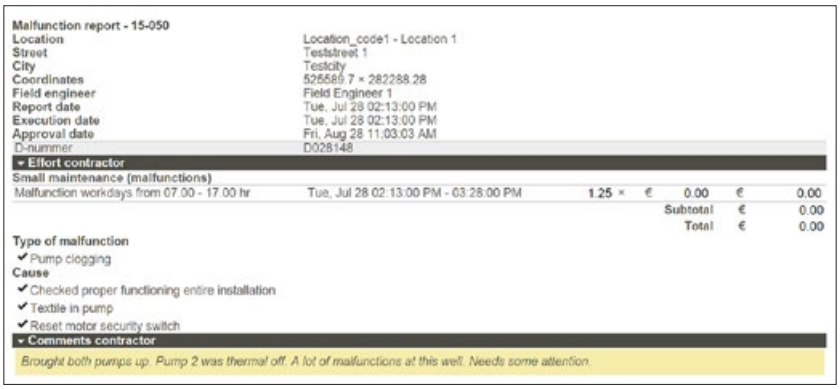
Presenting reports

After the forms have been completed and uploaded, they are stored in a central database. They can then be requested via the SaaS and consulted in a web browser. In addition, customized reports can be generated as well.
For example, by filtering only the desired data from the forms is shown in the reports.



Consulting reports

Below an example of a malfunction report with filtering is shown, only showing completed fields.



Malfunction report - 15-050

Location	Location_code1 - Location 1
Street	Teststreet 1
City	Testcity
Coordinates	526587 7 × 282288.28
Field engineer	Field Engineer 1
Report date	Tue, Jul 28 02:13:00 PM
Execution date	Tue, Jul 28 02:13:00 PM
Approval date	Fri, Aug 28 11:03:03 AM
D-nummer	D028148

▾ Effort contractor

Small maintenance (malfunctions)

Malfunction workdays from 07.00 - 17.00 hr	Tue, Jul 28 02:13:00 PM - 03:28:00 PM	1.25 ×	€ 0.00	€	0.00
			Subtotal	€	0.00
			Total	€	0.00

Type of malfunction
✔ Pump clogging
Cause
✔ Checked proper functioning entire installation
✔ Textile in pump
✔ Reset motor security switch

▾ Comments contractor

Brought both pumps up. Pump 2 was thermal off. A lot of malfunctions at this well. Needs some attention.

Example of a malfunction report

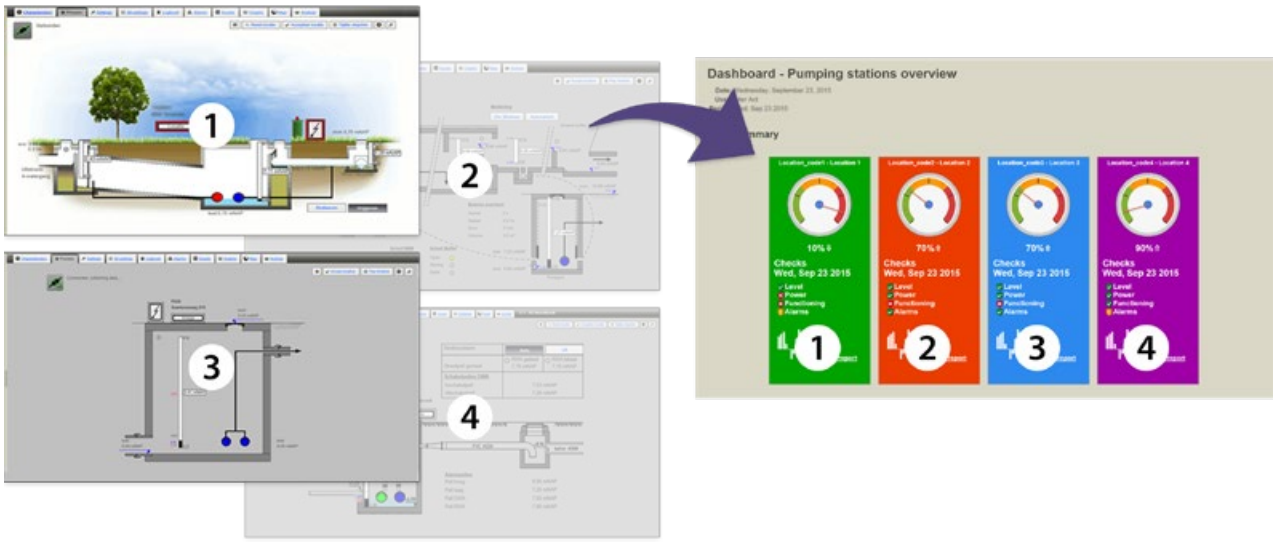
Assets is user friendly. It also has a low purchase price, enabling immediate saving on maintenance costs.

	Assets
Supported web browsers	IE9 or higher, Firefox 10 or higher, Chrome 17 or higher, Safari 3 or higher
TeleControlNet® version	version 3.0 or higher
Standalone use possible	√
Support telemetry locations	√
Support non-telemetry locations	√
Objects on GIS-map	√
Maximum amount of objects	Unlimited
Maximum amount of users	Unlimited
Input reports	Alarm reports
	Inspection reports
Output reports	Definable forms
	Alarm reports
	Inspection reports
	Total costs overview
	Collective reports materials and objects
	Multi-year budget
Output formats	CSV, PDF
Master data management	Mechanics
	Alarms
	Materials
	Check points
	Inspection types
	Price developments
Signaling types	Exceeded number of inspections
	Cost overruns
Signaling method	Screen, e-mail, SMS

Automatically detecting maintenance needs

Assets can be used as a stand-alone tool, but can also be accommodated in TeleControlNet.
In this case, a link can be made with the 4caster.

This is a data analysis tool developed by Inter Act that monitors the functioning of sewage pumping stations.
The 4caster collects data from various data sources, such as measured data and metadata.
The trend development of this data is analyzed and the results are presented in dashboards.



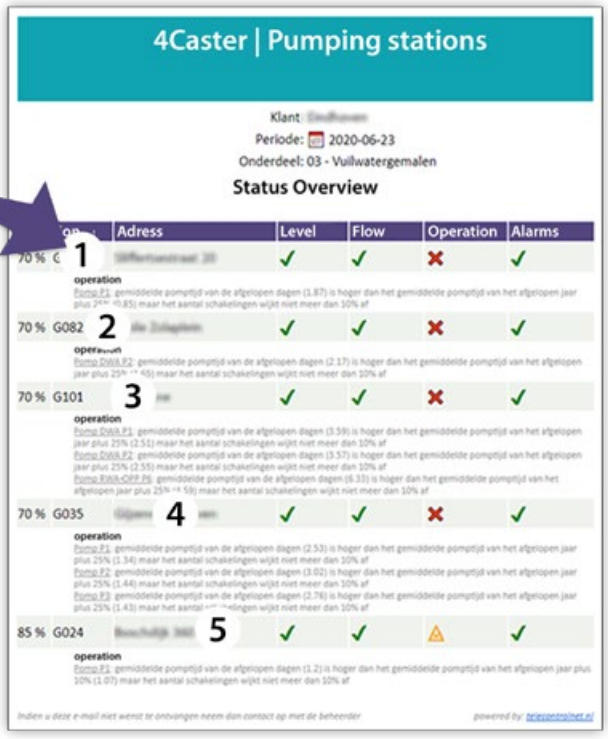
Example of 4 processes whose pumping behavior is visualized in dashboards

Condition based maintenance

Imminent technical defects can be brought to the attention of administrators by the 4caster before they occur.

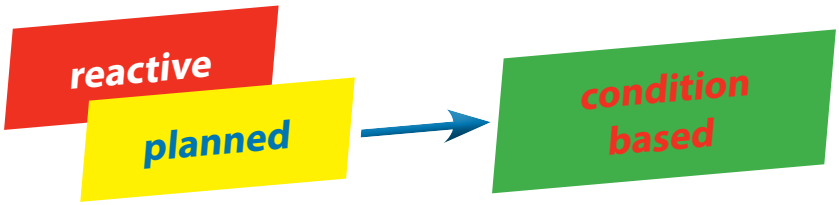
The 4caster automatically sends a (mail)message to the manager every 24 hours.
In this message, the functioning of all the pumping stations is indicated on a scale of 0 to 100% functionality.

Example of an automated daily mail message



With messages from the 4caster, administrators can instantly see how all pumping stations are functioning, without having to browse or search in a central management system.

If a manager wants more information about a specific pumping station, then he can call up a detailed report at the touch of just one button.



With 4caster: no reactive or planned maintenance, but condition based

In this way, an administrator can switch from reactive or scheduled maintenance, to condition-based maintenance, whereby the pumping station itself indicates that there is a need for service.

It is known from experience that with condition-based maintenance the average maintenance interval of a series of sewage pumping stations can be extended up to 50%.

For more information about the functionality of the 4caster, please contact us at info@interact.nl.

New developments

Assets is continuously extended with new functionality, such as:
- Extra (customer-specific) reporting options.
- Reporting parts selection for export to third parties.
- Report scheduler, for automated reports by e-mail.
- Improved forms editor.

Feel free to contact us for your specific wishes.

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