



CIVILWORKS WEB SERVICES. CWS

- GIS & CAD
- 3D & BIM
- MONITORING
- INVENTORY
- INSPECTIONS
- TRACEABILITY
- ALARMS
- DOCUMENTAL MANAGEMENT
- SUPPORT



WWW.CIVILNOVA.COM



CWS (CivilWorks Web Services) is our cloud-based web services platform for Civil Engineering. Our services are sometimes purely web services, web services associated with our desktop solutions. We have solutions for monitoring, inventory, inspection systems, traceability, etc. On above all of them, thanks to our versatile platform we are capable to adopt specific solutions according to the needs of each client.



Why CWS?

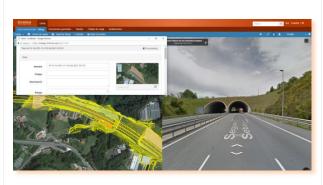
CWS is part of the idea to create an ecosystem of integrated solutions for Civil Engineering fields, providing effective tools to solve various problems and tasks. The location in the cloud allows a simple distributed management of the information, the systems integrated in the platform by our technicians give it a power hitherto unknown in this type of solutions.

Furthermore, our concept of software as a service (SAS) implies the continuous relationship with our customers, exchanging at all times the necessary information for the continuous improvement of the solution.



GIS & CAD. A visual platform

The basis of our platform has always been a GIS system with the necessary CAD tools to get the most out of the system. For this reason we can, if necessary, load the layout of a motorway, plans of some facilities, visualize cartography of the area, use orthophotos, connect to external servers to obtain maps, etc. In addition, the system allows access at any time to the information of each element, instrument, documentation, inspections, etc. from its representation with a simple mouse click.



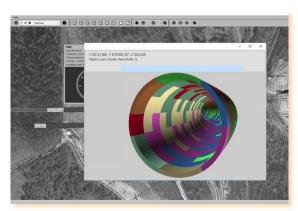
Interface view



3D & BIM

The system allows the 3D representation and the generation in BIM models of different types of elements, as an example, the tube or tubes of tunnels excavated with TBM. Although it is one of the latest technologies implemented in the platform, our system is prepared for this type of needs and the solution grows with functionalities based on the requests of our clients.

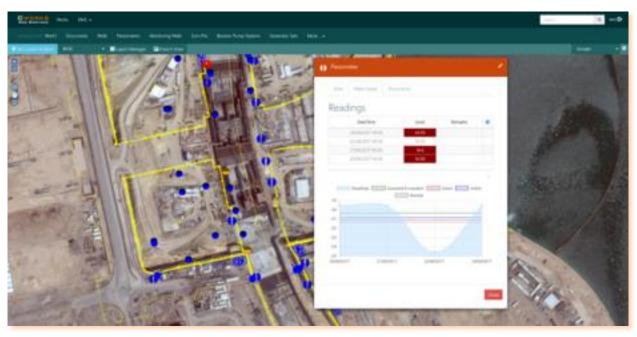
It also allows the use of point clouds as 3D models, for the referencing of elements, for example.



Túnnel 3D

Monitoring

The platform allows monitoring and exploitation of the information obtained from multiple devices and instruments. Currently, functionalities and reports related to multiple devices that can be consulted in the specifications are already developed, but our system grows with each new contract that involves the monitoring of new parameters and measures depending on the type of work or installation with which we are working. The versatility to characterize the device, exploit the measurements and obtain reports makes us a very general solution in which the clients can integrate all the information they want.



Instrumentos georreferenciados

Inventory

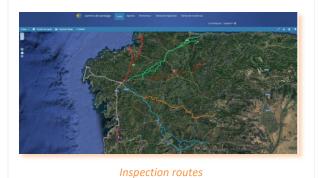
The platform also incorporates a complete inventory system that allows us to reflect both constructive elements (tunnels, structures, drainages, slopes, etc.), as well as all types of facilities (pumping stations, electrical panels, etc.) or devices of all kinds as those dedicated to monitoring.



Once again the platform is easily configurable if the client needs a new type of inventory item that is not currently available.

elected work: W	orkt Docur	vents Wells Piezo	meters Monitoring Wi	ells Sum Pits Bo	oster Pump Stations	Generator Sets Mo	e+				
Piezome	eters										
Filter by state ¥	1										Q,
Name	Code	Bottom level (m)	Ground level (m)	Normal level (m)	Action level (m)	Atarm level (m)	Assumed excavation level (m)	Supervievation (m)	State	Remarks	
WW-08 T	Central Jone	-00	-18	-28.0	-01	-28.28	-07.8	-18.007	operational 10/00/017 20-17		
T SO WH	Central zones	-30	-21	-29.08	-29.55	-28.91	-29.05	-20.024			
EW04T	Central some	-30	-46	-28.6	-38	-21.25	-27.8	-169	operational 10/06/2017 00:00		
T. 899 - 01	Carinal some	-00	-18	-22	41.8	121.28	41	-18.144	operational 22/08/2017 10-14		
WV-05 T	Central Jone	-30	-18	-28.45	-28.5	-28.25	-01.40	-15.65	manderance 23/08/3917 10:24		0.0
RT-MW-01	Central zone	-30	-18	-22	-21.5	-21.75	-01	-15.15	operational 22/06/2017 17:49		
8T-WW-86	Central pone	-30	-29	-29	-28.5	-28.75	-20	-16.22	operational 22/06/2017 17:51		
AT MAN 11	Central asme	-30	-01	-28	48.8	-28.78	d1	-18.87	operational 22/06/2017 17-84		
RT-979-13	central some	-30	-19	-28.8	-28.2	-28.45	-21.8	-17.08	operational 22/08/2017 17:50		
RT-WW-05	Central zone	-30	-67.5	-29	-29.85	-28.75	-20	-16.71	operational 20/06/2017 10:40		1 e c
P-01	Zone	-13.794	2	-12.8	-11.8	-81.8	-11.3	3.806			
Ph 1.8.	Zana	-17.0	2	-12.3	-11.8	-11.0	-11.3	1.77	operational 27/06/2017 04:48		0.0
92-1B	Zone 1	-54	-10.0	-12.9	-11	-10.75	-11.2	-10.080	operational 27408/2017 05:11		
47-10	Zone 1	-54	-10.2	-12.0	-10.75	-11	-11.0	-8.973	operational 27/06/2017 05:15		
99-02	Zone 1	-18.288	3	-12.8	-11.8	-11.8	-11.3	3.405	operational 27/06/2017 08-15		
P-24	Zone 1	-18.080	2	-12.3	-11.00	-12	-11.3	3.804	operational 37106/2017 08:32		0.0
97-29	Zone 1	-10	-11.3	-12.0	-11.78	-12	-11.0	-10.622	operational 27406/2017 05:30		e 0
4P-20	Zone 1	-40	-91.8	-12.0	-11.78	-12	-11.0	-10.995	operational 27/06/2017 05:35		e e
IT AFW OB	Zene 1	-13.228	2	-12.4	-10.8	-85.1	-11.4	3.452	operational 27/06/2017 06:42		
17-M/W-07	Jone 1	-12.001	2	-12.8	-10.8	-11.2	-11.0	1.349	operational 27/08/2017 08:42		0.0
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NT AFW OB	Zene 1	-17.01	1	-18.2	-14.70	-18	/18.2	4.54	operational 27/06/2017 08:47		
NP-07T	Zone 1	-27.205	3	-18.35	-14.75	-15	-15.35	3.595	operational 27/00/2017 00:48		e c
(T-MW-12	A5800001	-24,085	9	-22.028	-22.3	-22.6	-21.826	0.955	operational 27/06/2017 05:50		e 0
NT-APW-01	Zone 1	-28-585	-54	-28.184	-25.95	-28.68	-25.104	-13.288	operational 27/06/2017 06:67		
TAWE	Zane 1	24.8	1	-28	04.8	-24.78	-04	3.04	operational 27/06/2017 06 88		
WW-13T	2oneth	-01.798	3	-421	-20.5	-20.75	-40	2 827	operational 27/05/2017 05:07		
MW-848	Zone 2	-25.919	-20	-21	-20.5	-21.78	-20	-10.941	operational 27/06/2017 06:09	-	. 6 0
WW-708	Zone 2	-23-582	-20	-19	-18.8	-18.78	-18	-16.385	operational 27/06/2017 06:10		0 0
WW-73	Zone 2	-28.011	4	1.78	2.28	2	2.78	4.040	operational 37/08/3017 08:13		
WW-75	Zone 2	-30.996	9	1.55	1.0	2.05	2.85	3.454	operational 27/06/2017 00:15		e 0
NW-76	Zone 2	-34.776	8	2.750	0.25	8	0.708	0.804	operational 27/06/2017 06:32		e e
WW/77	Zone 2	-33.307	3	2.738	3.28	3	3.738	3.87	operational 271042017 08:38		0 0

Inventory elements



Inspections

Inspections management, normally associated with inventory elements, allows configuring the system to perform this type of tasks, plan them in time, obtain reports, etc.

We can also combine the web platform with mobile applications that facilitate field work.

Alarms

The platform has a complete alarms configuration and warning generation system, applicable to its multiple solutions. From notifying in real time of a specific value in a piezometer, to sending emails to certain users on a regular basis with important notices. Currently, notice can be send via email or SMS.





Traceability

The traceability, in different facets related to the Civil Engineering, is another area in which we have introduced our platform. Specifically, in explosives traceability in civil works, quarries, mining, etc., and in precast traceability in large civil works, i.e. tunnels excavated with tunnel boring machines (TBM).

In this case we have expanded our range of action to the development of mobile applications to perform field management work and development of projects to identify elements through different methods.

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Explosives traceability

Todos los derechos reservado

Documental management

The platform has a powerful documental management service that allows the user to trace the lifecycle of the files, characterize them, control versions and above all associate them with an element registered in the platform, it can be a segment, a bridge, a piezometer or any other element.

CkBlast es una marca registrada. CkBlast - CivilNove.

	Nombre	Fecha de subida	Descripción	Tamaño de fichero						0
01 - Revisiones periódicas									/	
02 - Informes geolécnicos compl	ementarios								/	8
03 - Proyectos constructivos									/	8
04 - Datos previos									/	8
Resumen de la base docume	ntai								/	8
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Documental management



Technical support

One of our greatest strengths is our customer technical service. Includes technical support, platform updates with generic functionalities and the continuous adaptation of the system to customer requirements.



Full solutions

We provide the client, in addition to the software necessary to perform the information management both through the web portal or field applications, the equipment for printing labels when necessary, the labels themselves, mobile devices, etc.

We also advise our clients with the technological solutions that may be more interesting depending on the working conditions.

We are **Zebra** and **Honeywell** partners.





Terminals and printers



Specifications

GIS & CAD

- ✓ CWS integrates data in different formats (dxf, kml, kmz, shape, etc.).
- ✓ Compatible with the main standards for georeferenced images (.tiff, .jpg, .ecw, etc).
- ✓ Connection with Google Maps, Google Street View, Openstreetview, Bing maps, etc.







- ✓ Access to WMS and WFS servers.
- Display of all inventory items in the GIS system.
- ✓ Direct correlation between graphic elements and databse info.
- ✓ Access from the GIS system to the documentation related to inventory elements.
- Multiple tools for accessing information (spatial queries, geoprocesses, specific tools for each module of the platform, etc.).
- Measurement tolos for distances and áreas
- ✓ CAD edition. Points, linear and polygonal elements.
- ✓ Layers management.
- ✓ Scalable and interoperable platform.
- ✓ Multiplatform.



GIS System Vlew

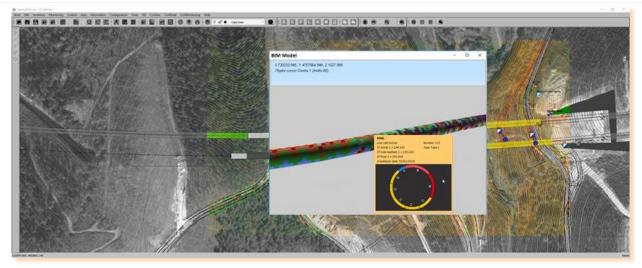
3D & BIM

- ✓ 3D platform.
- Possibility of using point clouds to reference elements. Slopes intrumentation i.e.
- ✓ BIM model generatino for specific elements.



Point clouds in CWS





3D tunnel model

MONITORING

- ✓ Management of instrumentation devices (inclinometers, piezometers, load cells, prisms, etc.).
- ✓ Water Quality Control management.
- ✓ Multiple systems monitoring, wells, pumping stations, electrical panels, etc.
- Exploitation of data collected using data mining techniques.

✓

INVENTORY

- ✓ Assets management.
- ✓ Dynamic characterization of the elements.

INSPECTIONS

- ✓ Inspections management.
- ✓ Inspections reports generation.
- Planning of inspections.

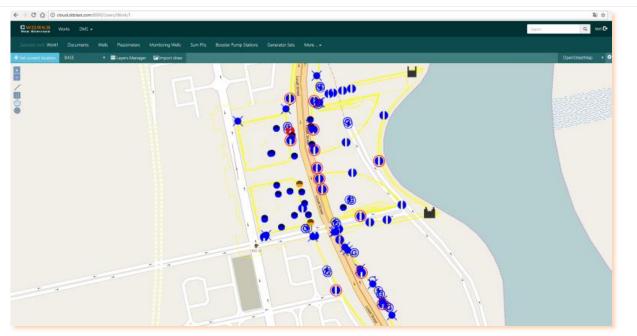
TRACEABILITY

- Elements traceability.
- Tracking using tag systems or similar.

ALARMS

- ✓ Generation of customized alarms in different areas, monitoring, inspections, etc.
- ✓ Notifications via email or SMS.

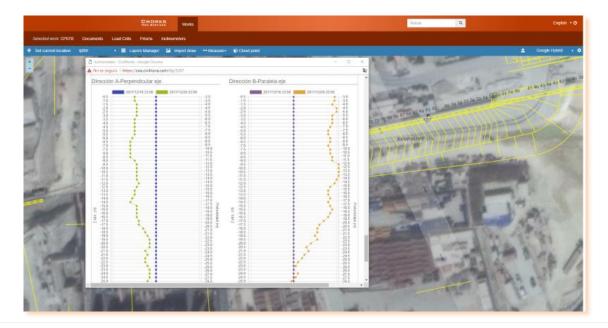




Alarms. Monitorized zone

DOCUMENTS MANAGER

- ✓ Documents integration with GIS entities.
- ✓ All kind reports, plans, images, etc management.
- ✓ Versions control.
- ✓ Files characterization.
- ✓ Queries, filters and searches integration.
- ✓ All types of automated reports generation.
- ✓ Database data, graphics and CAD drawings integration.





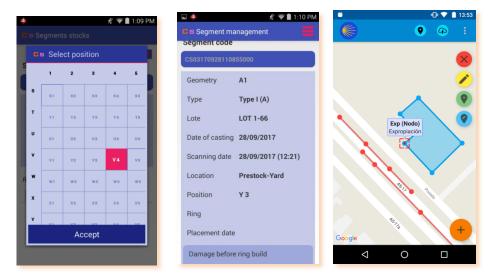
	-10		PRECAST RING PRODUCTIVITY											
		SEGMENT YARD				Tunnel 1								
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10/07/2017	13	CS03170710180736011	K	Type I	41		Day							
10/07/2017	3	C503170710180736008	C	Type 1	41		Day							
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Reports and graphics

✓ Spatial consultations and geoprocesses applicable to the project

MOBILE SYSTEMS

- ✓ Android and IOS systems.
- ✓ Easy to use solutions.
- ✓ Traceability, inventory, etc. Solutions.
- Messages and alarms management.
- ✓ USB, Wifi, Ethernet and 4G data transfer.
- ✓ We advise you on the purchase of the most suitable mobile devices for your project.



Mobile App

SECURITY

- ✓ User management.
- Users operations traceability.
- Peronalized profiles for each work.

SUPPORT SERVICE

- ✓ Technical support (email, phone or remote access).
- Platform updates included.
- Personalized developments and system adaptations.





CWS PROJECTS

PERTH :: AUSTRALIA Project: PREFABRICATED TRACEABILITY Year : 2017 - 2019 Forrestfield Airport Link

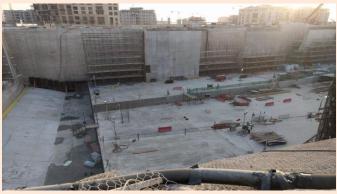
Length: 2 x 8,000 m. Section: 6,160 mm. Segments: 60,000



EUSKADI :: SPAIN Project: GEOTECHNICAL INFO PLATFORM Year : 2016 -Geotechnical Information platform for ETS (Euskadi Railways managers) Geotechnical campaigns: > 100



LUSAIL CITY :: QATAR Project: DRAINAGE SYSTEM MONITORING Year: 2017 - 2021 Lusail City construction Monitoring devices: >300 devices Facilities: > 100 facilities



BRATISLAVA :: SLOVAKIA Project: BRATISLAVA BELTWAY CONSTRUCTION Year : 2017 -Bratislava beltway project management (Cintra, Porr & McQuaire)





GUIPUZKOA :: SPAIN

Project: SLOPES MONITORING & RISK CALCULATION Year : 2018 - 2022

Risk calculation and slopes monitoring for Bidegi Slopes: 320 slopes Monitoring devices: > 400 devices



SPAIN Project: EXPLOSIVES MANAGEMENT PLATFORM Year : 2015 -CKBLAST. Explosives management and traceability Explosives consumption points: > 450 Client companies: > 200



MEXICO DF :: MEXICO Project: ROADS MAINTENANCE & OPERATION Year : 2016 -Circuito Exterior Mexiquense Mainroad km: > 170 + 134 Structures Monitoring devices: > 150



LANGREO :: SPAIN Project: RAILWAY BURYING MONITORING Year : 2016 - 2018 Railway burying monitoring for ADIF Monitoring devices: >100 devices



GALICIA :: SPAIN Project: ST JAMES WAY INVENTORY Year : 2018 -Inventory platforma for ST James way Km: > 2000 km



FERROL :: SPAIN Project: URBAN MAINTENANCE WORKS MANAGEMENT Year : 2017 -Urban maintenance Works portal







OTHER COMPATIBLE SOLUTIONS

CIVILGEO

Management of geotechnical information in detail, boreholes, soil pits, penetrometers, samples, laboratory tests, geophysics, etc. which can be combined with the information of a CWS project.

https://www.civilnova.com/index.php/en/solutions/civilgeo

CIVILWORKS

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