What is CivilSegments?
CivilSegments is a unique solution for precast tunnel segments management and traceability, starting from the production process, to the final assembly of the concrete ring, after handling, storage and installation stages.

Why CivilSegments?
CivilSegments is a customized solution that fits your needs on every single project, allowing the definition of checking points, control parameters, scanning and labelling systems, etc. for an optimum performance.

About CivilSegments

Management and traceability of precast segments

**GIS.** CivilSegments is a comprehensive GIS tool, fully developed by our team. Therefore, users do not need additional licensing from other suppliers and GIS functionalities are available for those modules where they are necessary.

**CAD & 3D.** Elementary CAD tools are also available for supporting basic operations. CivilSegments is a full-fledged 3D platform and takes advantage of this feature.

**Total traceability.** CivilSegments could be customized to obtain information from every singular production and assembly processes of rings and segments throughout the delivery chain.

**A visual system.** Locating of rings, segments and reinforcements, from the precast plant to the installation on the tunnel lining, visualized on the real ground plan or in a schematic diagram.

**Segments storage yard.** Management each movement at storage yard using the real ground plan. Control of stock’s features including quality and status parameters, instrumented rings, etc.

**Tunnel.** Position of every ring, mounting data, key segment position, etc. could be checked after uploading the tunnel lay-out.

**Mobility.** We use comfortable and easy-to-use high-end mobile terminals, designed and programmed for facilitate operator’s work in every checkpoint, even in the harshest environmental conditions.

**Document management.** Managing documents is key to any process or project. CivilSegments provides you with a document manager, thoroughly and homogeneously integrated on any operation.

**Briefs and reports.** Automated report generation. Surveillance reports, i.e., at the click of a mouse. Adaptation to templates provided by the client.
 Queries. All kind of spatial queries and geoprocessing tools easily performed through CivilWorks.

 Security. CivilSegments includes controlled access for platform modules and a user profile system for data query and processing.

The best customer service: technical support, software updates with new functionalities and customized adaptations for your specific needs. From customized outputs to tailored functionalities for each field of work
CivilSegments is a part of a comprehensive engineering working platform composed of different and complementary modules. More information in our site www.civilnova.com.
# Functionalities of CivilSegments

## Working mode
- Real-time mode using Wi-fi or 4G communication
- Off line mode or batch mode using USB or Ethernet communication

## Total Traceability
- Multi-factory management
- Traceability of segments

<table>
<thead>
<tr>
<th>Segments setup</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Traceability of rings</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Traceability of reinforcements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Traceability of mixtures</td>
<td></td>
</tr>
<tr>
<td>Traceability of moulds</td>
<td></td>
</tr>
<tr>
<td>Customization of traceability parameters</td>
<td></td>
</tr>
<tr>
<td>Customized design of segments and rings</td>
<td></td>
</tr>
<tr>
<td>Management of control parameters</td>
<td></td>
</tr>
<tr>
<td>Customization of control points for manufacturing segments process</td>
<td></td>
</tr>
</tbody>
</table>
- Production control
- Quality control
- Instrumentation control
- Storage and delivery control
- Lining segment position control
- Management of images linked to processes
- Alarm management
- Automated generation of traceability status reports
- Spatial queries and geo-processing available
- Checkpoints managed using mobile terminals

**GIS**
- CivilSegments is able to access different data sources (dxf, dwg, shape, kml, WMS servers, etc.)
- Links between graphic and alphanumeric information
- Comprehensive inventory system of constructive elements with GIS identity
- 3D platform
- Multiple tools for information access (spatial queries, geo-processes, specific tools, etc.)
- Interoperable
- Scalable
- Multiplatform
- Datamining operations

**CAD**
- DXF/DWG file compatibility
- Layers management
- Design tools
- Basic CAD editing functions

**Visualization**
- Visual control of the storage yard using both the schematic or the real ground plans
- Visual control of schematic rings and segments
- Visual control of ring position using both the schematic or the real layout of the project

- Automated generation of graphic reports
- Spatial queries and geo-processing available
- Visual status on mobile terminals
• Customized management of storage areas
- Integration with real ground plans
- Crane management
- Delivery facilities management
- Automated report generation
- Spatial queries and geo-processing available

<table>
<thead>
<tr>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Yard information management using mobile terminals</td>
</tr>
<tr>
<td>• Android compatibility</td>
</tr>
<tr>
<td>• Multipoint management (factory, storage yard, TBM)</td>
</tr>
<tr>
<td>• Alarms and messages management</td>
</tr>
<tr>
<td>• USB, Ethernet, Wi-fi, 3G/4G communication</td>
</tr>
</tbody>
</table>
Labelling solutions

- Customized labels generation
- Labels tested under adverse conditions

Queries

- GIS queries management
- Geoprocessing functionality
- Cross-reporting functionality

Briefs & Reports

- Integrated report generation system
- Report generation as tables, CAD, separated graphics o automatically integrated
- Multi-template-management
- Preview editor

<table>
<thead>
<tr>
<th>Code</th>
<th>Geometry Type</th>
<th>mould</th>
<th>Casting Date</th>
<th>Scanning Date</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>E5</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td>Prestock-Yard Y3</td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>C3</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>B5</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>A5</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>A1-1</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>B1</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>K3</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>E3</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>D5</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
<tr>
<td>C5031.969013</td>
<td>Type I</td>
<td>K3</td>
<td>26/06/2017</td>
<td>20/06/2017</td>
<td></td>
</tr>
</tbody>
</table>
**Document management**

- Document integration with elements (rings, segments, etc)
- Management of drawings, pictures, minutes, reports, etc.
- Document codification
- Document characterization
- Integrated queries and filters

**Security**

- Users management
- Profiles with limited access to different areas could be generated
- Includes a qualified signature system for diverse parts of the app

**Customer Support**

- Technical support (email, phone, TeamViewer)
- Access to the latest software updates
- Development of customized functionalities
- Automated online updates

In addition to our software solution, we can provide advice on industrial labelling systems, with different possibilities of both high strength adhesive labels and compatible printers, offering a global solution for the manufacturing process.

Please, contact us if you also want to integrate communications on the system. In collaboration with our partners, we can provide you a turnkey solution.
High range mobile terminals and printers used on our traceability system are Zebra/Motorola, a leading brand in the market of tracking devices with barcode-based products, with an outstanding customer support service. Therefore, CIVILNOVA SOFTWARE has become an official Zebra/Motorola Partner and, to ensure the best maintenance for your terminals, our solution could be complemented with servicing contracts offered by Zebra/Motorola.

We are using in most of our projects the Zebra TC70/75 Mobile computer and the Zebra ZT420 printer with excellent performing.

Access range mobile terminals used on our traceability system are Honeywell, a leading brand in the market of tracking devices with barcode-based products, with an outstanding customer support service. Therefore, CIVILNOVA SOFTWARE has become an official Honeywell Partner and, to ensure the best maintenance for your terminals, our solution could be complemented with servicing contracts offered by Honeywell.

We are using Honeywell SCANPAL EDA 50 Mobile device in short-lived projects with excellent performing.