

# MAGNET

Your Work Connected



# Table of Contents

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## MAGNET Software Suite Field, Enterprise and Office

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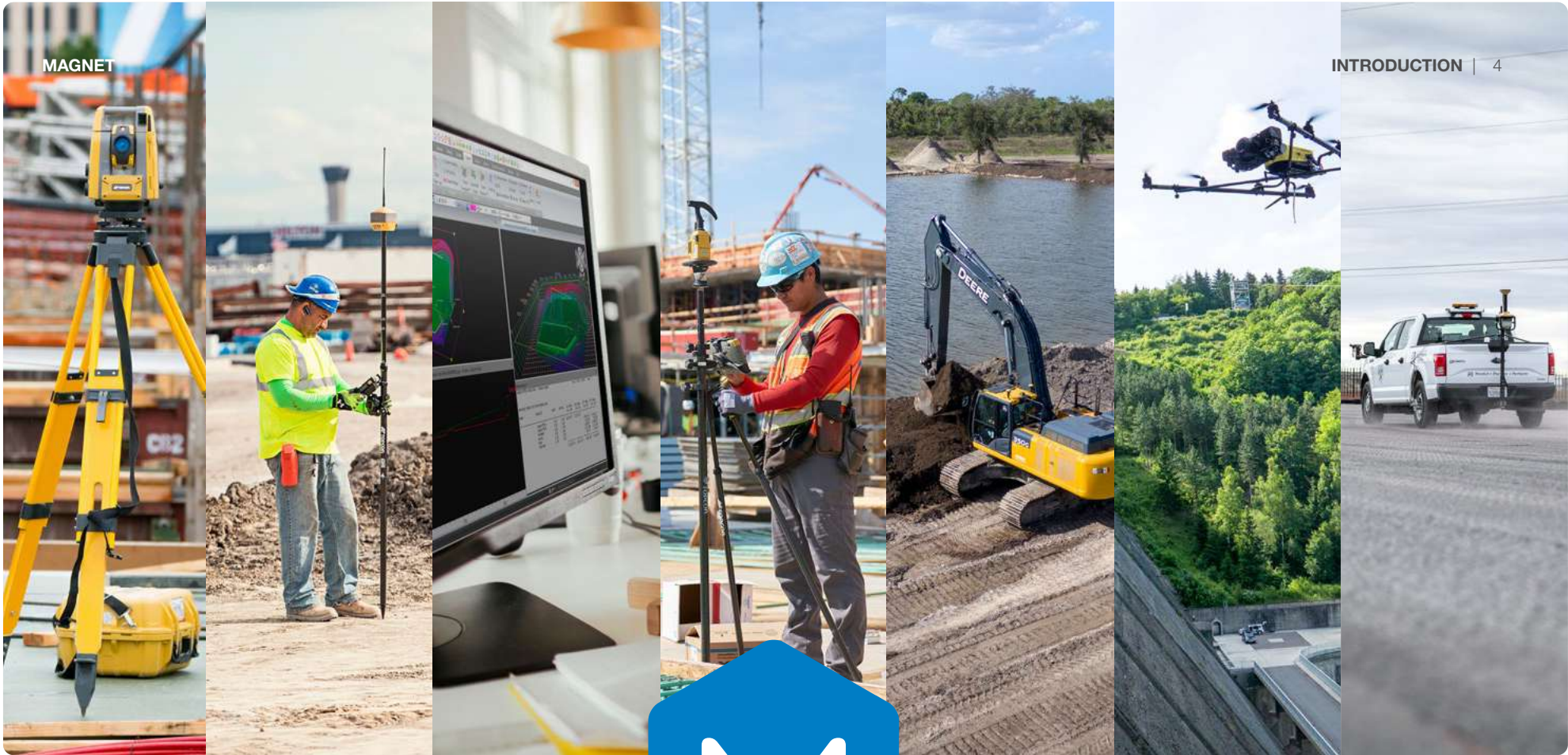
The construction industry is looking for new solutions to cut down on the billions of dollars lost each year due to inaccurate and incompatible project data leading to rework and collaboration breakdowns.

The MAGNET software suite addresses this need by streamlining workflows for contractors, surveyors, modelers, estimators and project managers across each stage of a construction project. This field, cloud and office software suite, when combined with Topcon's state-of-the-art instruments and machine control, enable users to create and access the right data, in the right place, all the time.

MAGNET is a comprehensive, connected and compatible solution that closes the gap between the survey and construction industries.







# MAGNET®

A key component of Topcon's digital ecosystem.

Planning | Survey | Design | Layout | Execution | Inspection | Maintenance

# Comprehensive

MAGNET provides full application coverage with end-to-end workflows for contractors and surveyors. This software suite improves productivity across the entire project:



### Earthmoving and paving

Improve earthmoving and paving machine-control efficiency by quickly creating machine-ready constructible models and estimates to win more projects and save on materials. MAGNET maximizes your data and resources from earthworks to concrete, asphalt paving and resurfacing applications.



### Stakeout and surveying

Create highly productive workflows for stakeout as well as for gathering survey and construction-location data in the field. Seamlessly transfer that data to the cloud and create finished digital terrain deliverables in the office. This connected workflow approach creates successful and collaborative outcomes from initial field surveys to the finished project.



### Bulk earthmoving

Moving large amounts of earth offers a great opportunity to save on materials with automated mass-haul optimization and location-based scheduling tied directly to excavators and haul trucks. MAGNET reduces risk and helps you stay on schedule to successfully tackle even your most challenging projects.



### Building Construction

Simplify your layout and construction-verification processes whether you start your workflow from printed plans, PDFs or fully coordinated Building Information Models (BIM). Connecting the field layout crew to the office has never been easier.







## Connected

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A connected approach to your projects includes seamless field-to-office collaboration with one set of plans that are always up to date across the project team. Integrated field, office, machine, instrument and third-party software keeps your project team connected so that they are on the same page working more efficiently together towards a productive and profitable outcome.

## Compatible

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Seamless integration eliminates boundaries, data silos and the limitations inherent in mixed-fleet situations, providing a totally compatible solution that just works. This makes it possible to combine drawings in multiple formats—including third-party data via a field-controller device or office software—with minimal conversion effort or data loss.

MAGNET is compatible with more than 50 industry-standard drawing formats. Those formats can be imported to enable a jobsite to work with compatibility from survey and layout to machine control.



# In the Field

MAGNET Field for Increased Accuracy and Efficiency



## The engine to field productivity

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MAGNET Field, the engine for our field-productivity package, is designed to accelerate productivity, increase accuracy and better connect project teams. The intuitive software is easy to learn and use and yet has the power to solve even the most complex positioning challenges. Surveyors and contractors alike use MAGNET Field to collect data points, stake out road and site projects, lay out building components and perform land surveys. Running MAGNET Field on a ruggedized Topcon controller brings field-proof high-computing capabilities directly to your jobsite.

### Field-based data management

The growing trend is for field personnel to handle data like control points, construction drawings, quality reports and as-built documentation directly from the field controller. In many cases, this can even be done without the need for office software. Quickly set up your projects; store the information you need; share your daily work instead of sending the whole file back and forth each day; and securely back up the data to the cloud.





# MAGNET Field Highlighted Features



## Easy to use and learn

Users can navigate to more points per day and easily lay them out with straightforward commands for streamlined and dependable workflows. Whether starting fresh or switching from another software platform, you will have a smooth transition to MAGNET Field.

## 3D layout

Create 3D layouts with a BIM interface that enables multiple floor views including filtering by level using the popular IFC file format. Create object-insertion points to lay out 3D objects directly in the field software.

## Data handling

Display project data faster and handle larger and more complex jobsite files using 3D viewing and filtering. Field users can lay out and collect points on even the most complicated infrastructure projects.

# MAGNET Field Highlighted Features



## Professional field-based, quality reporting

Create professional reports and annotated photographs directly from the field to immediately share positioning accuracy, tolerances and observations. Improve documentation to reduce the high cost of rework caused by undiscovered inaccuracies, poor data and miscommunication.



## Map-based workflows

Avoid lost time switching between screens thanks to flexible workflow options controlled directly from the map view. Workflow options include staking project data, adjusting layer settings, displaying backgrounds, adding data levels, viewing GNSS settings and showing visual offsets.



## Hybrid GNSS and total stations control

Simultaneously connect to GNSS and optical sensors while the software optimizes measurements between the two technologies. This significantly increases productivity by allowing users to accurately capture points with fewer total-station set-ups even when the line of site is lost.

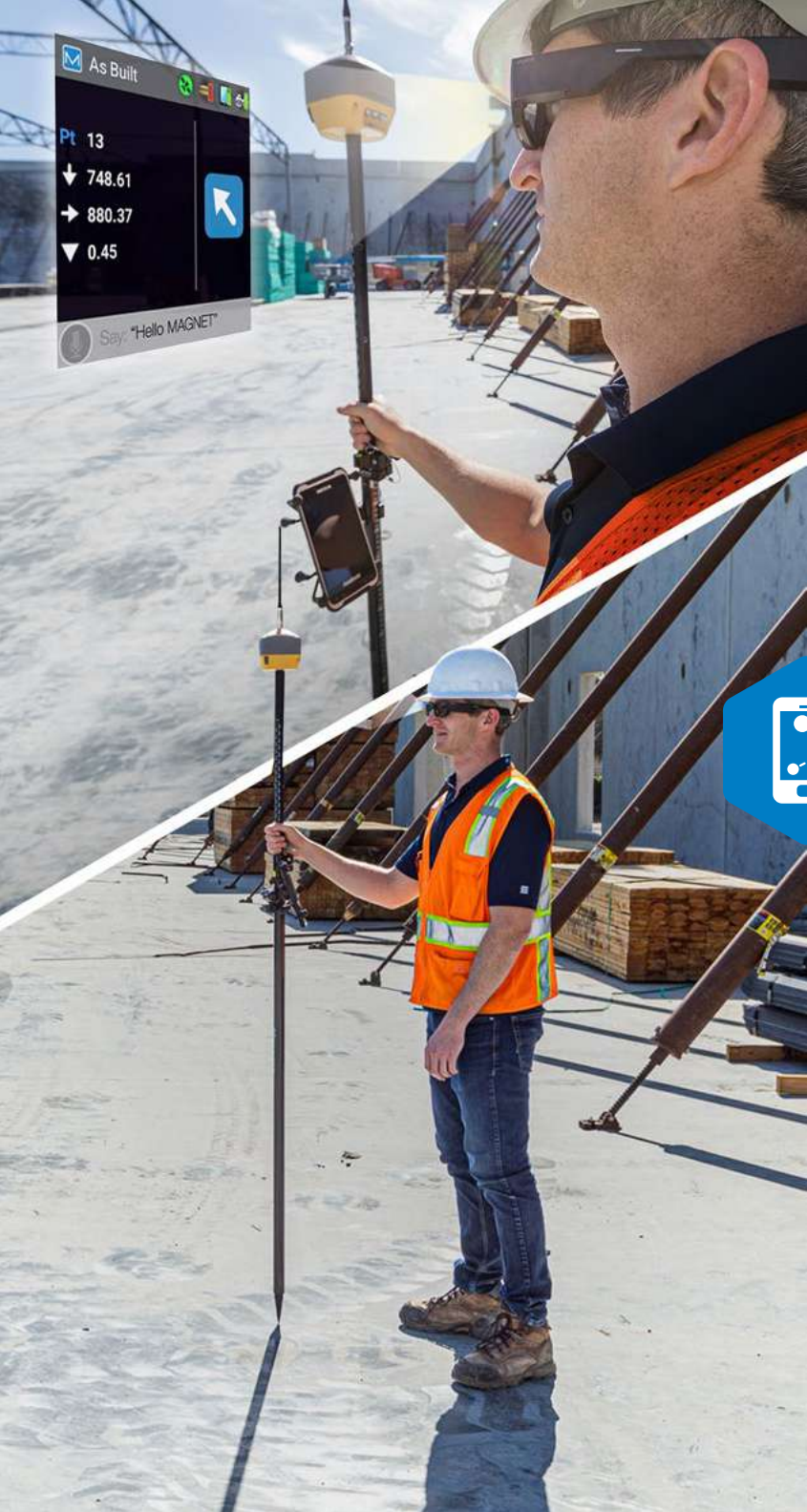




## MAGNET Field Layout

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This data-collection software is designed specifically for quick and accurate layout and construction verification. With in-the-field plan and dimensional entries, you can move from paper plan or 3D model to building layout faster than ever. MAGNET Field Layout also includes scanning capabilities for use with construction-verification workflows.



# MAGNET Vision

See visual aids on smart glass lenses and control instruments via voice commands. This software enables users to precisely lay out and measure points on a job site, increasing productivity and worker safety with hands-free operation. The system is an add-on to MAGNET Construct field-controller software and utilizes third-party Vizux Blade smart glasses.





# In the Cloud

MAGNET Enterprise for Efficiently Managing Geopositioning Data



## MAGNET Enterprise

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Store data and insights for access by field crews, machine operators and office team members using MAGNET software, Sitelink3D, Autodesk or Bentley solutions. This web service provides seamless field-to-office connectivity for your projects, making a real-time connected data environment possible. Project data is saved to the map, and files can be instantly converted and shared with a field controller or machine. MAGNET Enterprise improves productivity as downtime and do-overs are minimized by providing the entire project team with increased accessibility to accurate and consistent cloud-connected geospatial data.



# MAGNET Enterprise Highlighted Features



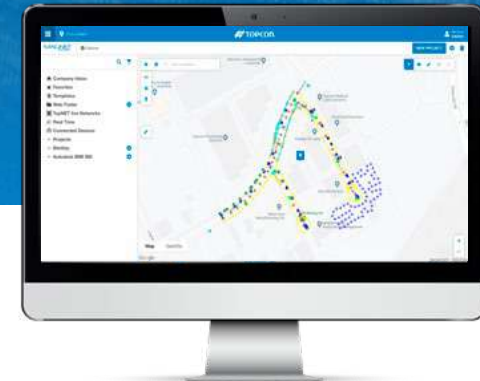
## All your projects on a web-interface map

Connect the digital and the real worlds with a visual map of your project datasets directly georeferenced to the earth with background maps.



## Cloud-based data management

Keep the entire project team working on the latest plans, and benefit from single-click data conversion to share survey and constructible models directly to instruments and machines on site.



## Real-time collaboration

Annotate or redline the map or plans in the cloud browser to directly transfer instructions or notes to keep your field crew working at maximum efficiency.

# MAGNET cloud integrations

Give your project team greater access and visibility to geopositioning cloud-connected data, whatever its format or source.



## MAGNET Field and Office

Securely access and share data directly from MAGNET Field and Office software or directly access data insights via the web interface.



## Sitelink3D machines

See all your equipment on each job site in real time directly from your desktop or mobile device.



## Haul truck mobile app

Automatically update the MAGNET master-schedule haul volumes and locations with the Haul Truck cloud integration.



## Autodesk

Autodesk BIM 360 document files and project folder structures are directly accessible from the MAGNET software suite in the field and office. Additionally, a Topcon ribbon can be applied within Autodesk Civil 3D for easy file exchange and cloud connectivity.



## Bentley

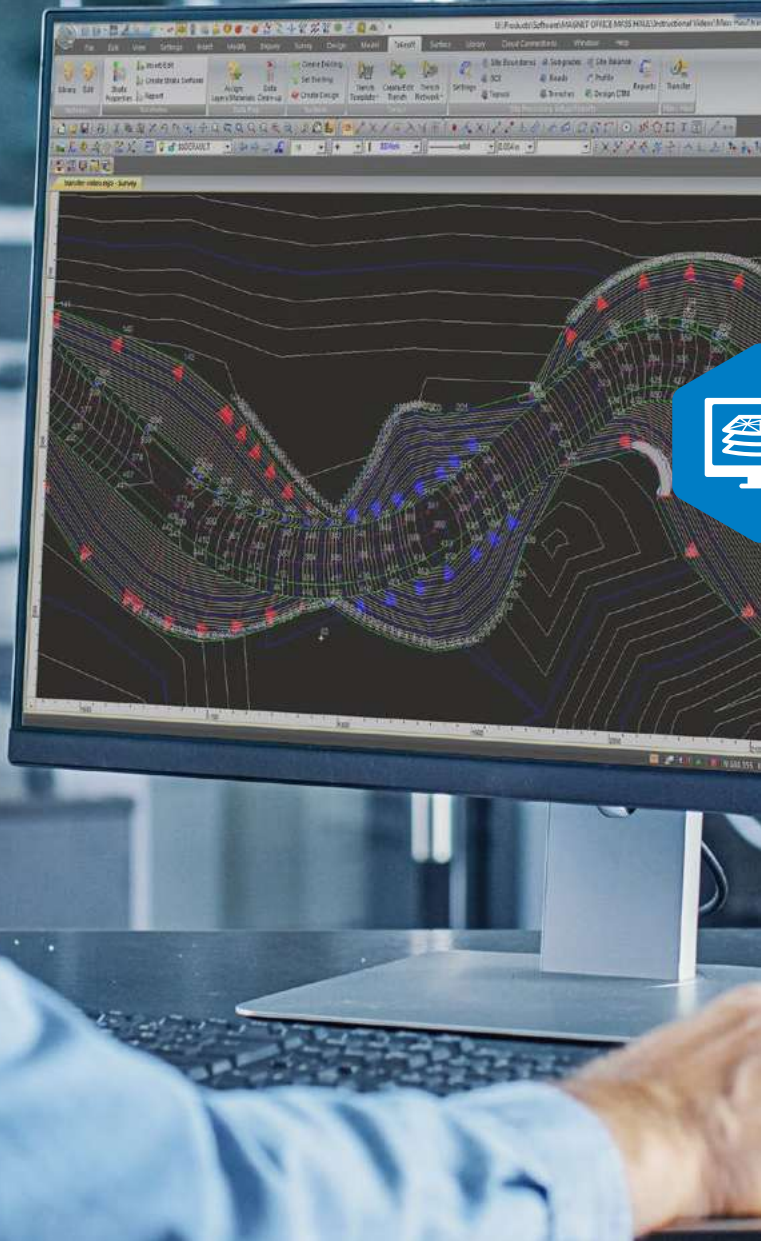
Bentley ProjectWise files and project folder structures are directly accessible from the MAGNET software suite in the field and office.





# In the Office

MAGNET Office for Productive and Profitable Workflows



## MAGNET Office

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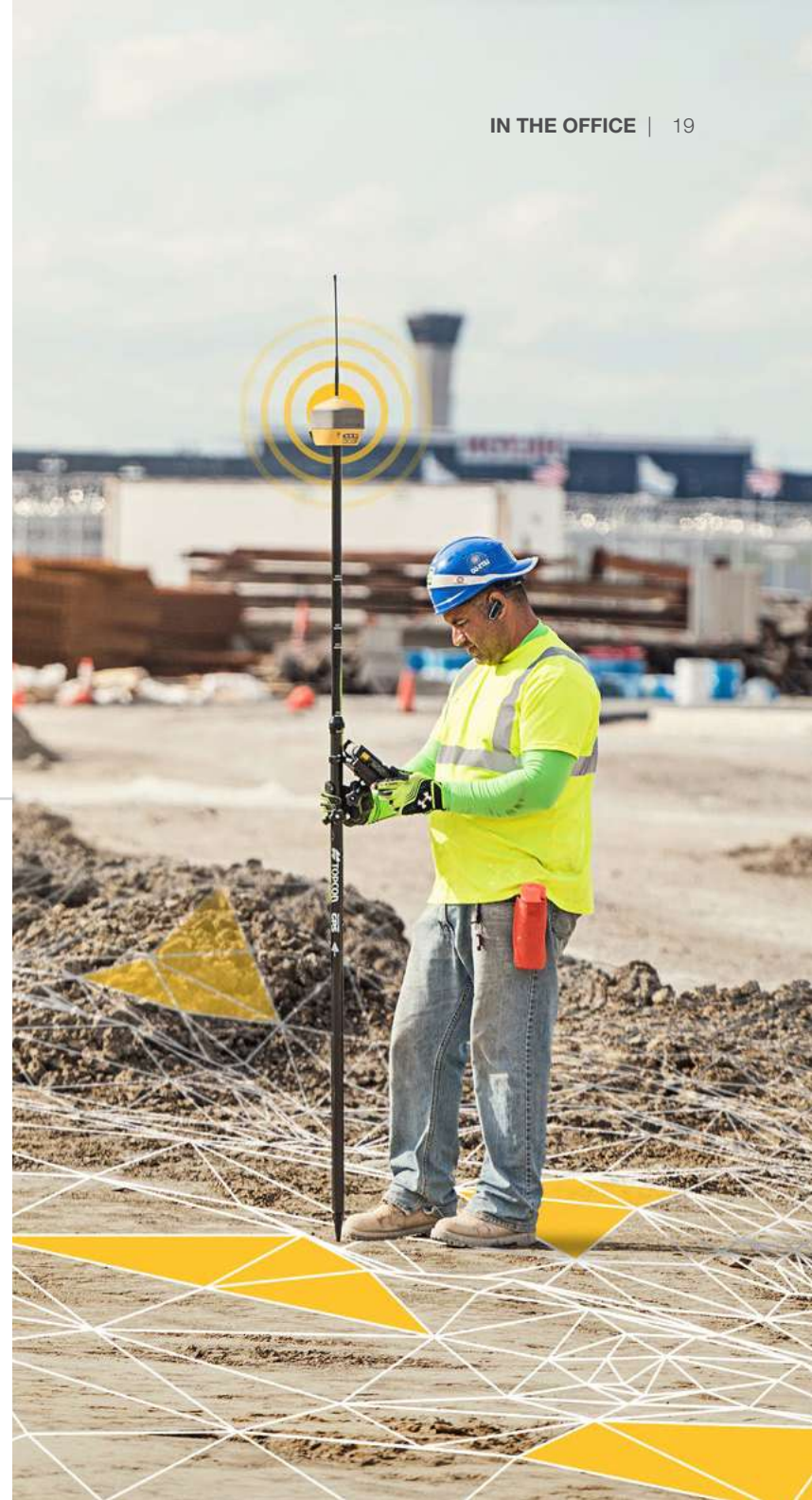
Stay in charge of your project data set. This office-software companion to our field-productivity solutions handles the data import-and-export needs and provides project insights for better site management and improved profitability. You can optimize digital-infrastructure workflows including machine-control models, material takeoffs, final survey deliverables, point-layout files, paving-resurfacing design and location-based project scheduling for mass-haul earthmoving.

These capabilities make MAGNET Office particularly well-suited for earth-moving, paving and surveying applications.



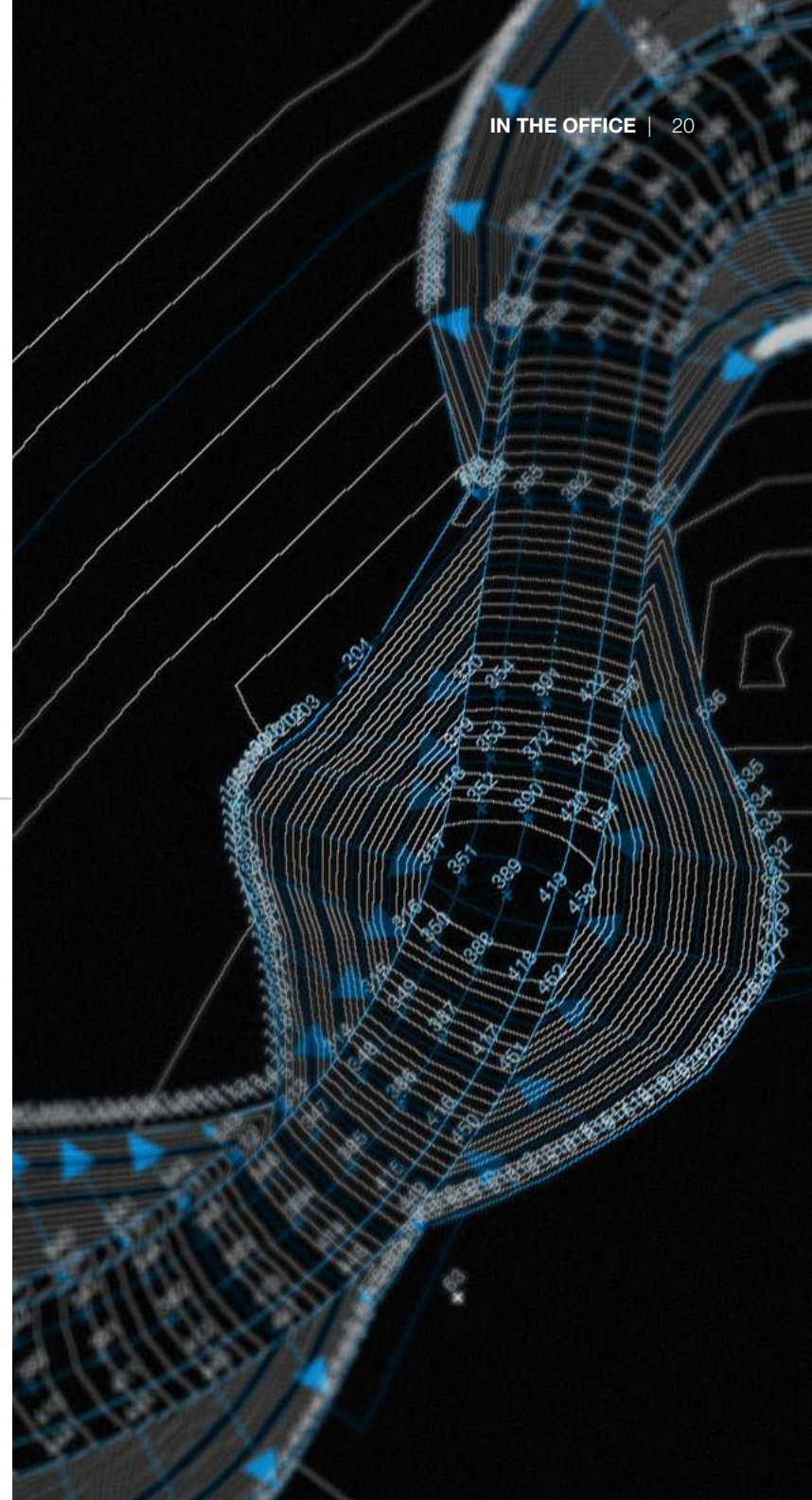
## Constructible digital terrain models

MAGNET Office software enables you to efficiently combine plans and survey data to build machine-and-instrument-ready constructible 3D digital-terrain models for sitework, corridors, roads, paving and trenching. MAGNET digital-terrain models can be directly transferred to machines, field personnel or project stakeholders for a better-connected project team. Triangulated digital-terrain models provide a data-efficient physical project representation making it possible to create topographical maps, extract cut-and-fill volumes, and provide progress reports for a bill of quantities, planning and scheduling.



## Digitize workflows, both simple and complex

Even if you are just starting your digitization journey, you can quickly be working with improved machine control files, converting estimation methods from paper to 2D or 3D models, or efficiently creating survey deliverables. Digitize your everyday tasks including setting up points for layout, converting PDFs to CAD files and calculating takeoff volumes. If you want to save on materials and reduce risks to the schedule, dive deeply into the powerful mass-haul, project-management capabilities. To better align your project team, create texturized models from your project data sets to provide a visual collaboration tool.

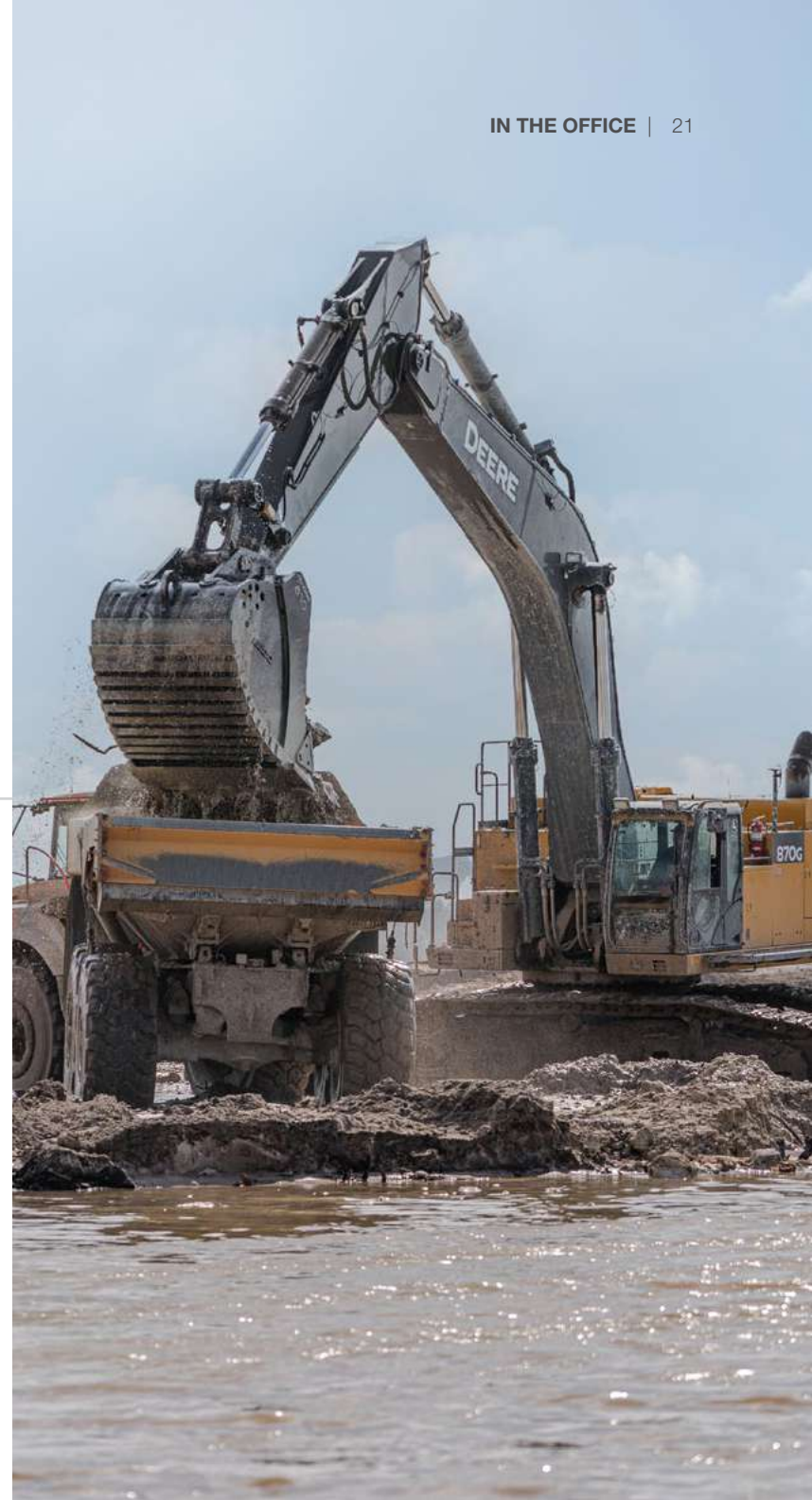




## Mass-haul project management

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Use our mass-haul digital tools to plan, schedule and optimize your construction project. Evaluate design solutions and their impact on the overall schedule, mass balance and project feasibility. Generate a bill of quantities from the constructible 3D model; and combine it with maps and production resources for a unique, location-based visual overview of even complex civil projects. The MAGNET Office connection to the Haul Truck app and Sitelink3D provides a direct link to track hauls in real time to update the project schedule.



# MAGNET Office Earthmoving Feature Highlights



## Model building, estimating and data preparation

Bring your construction plans to life with precision. Enter site-specific construction materials; quickly build design surfaces; create cost and volume reports; and develop 3D models. Bid and manage each project—including site work and large-scale road work—quickly, accurately and successfully.



## Mass Haul construction management

Reduce scheduling risks and plan your large-scale construction and earthmoving projects more efficiently. Easily calculate mass haul distances; adjust the schedule; and update quantities and production rates. Efficiently track your hauls and stay ahead of schedule with a direct connection to real-time haul data.



# MAGNET Office Paving Feature Highlights



## SmoothRide asphalt resurfacing workflow

MAGNET's easy-to-use digital-resurfacing design tool is designed for paving or milling projects. Quickly produce cross-slopes, transitions, smoothing, milling, lifts and IRI (International Roughness Index) calculations; and send design files directly to the field.



## Concrete paving machine control files

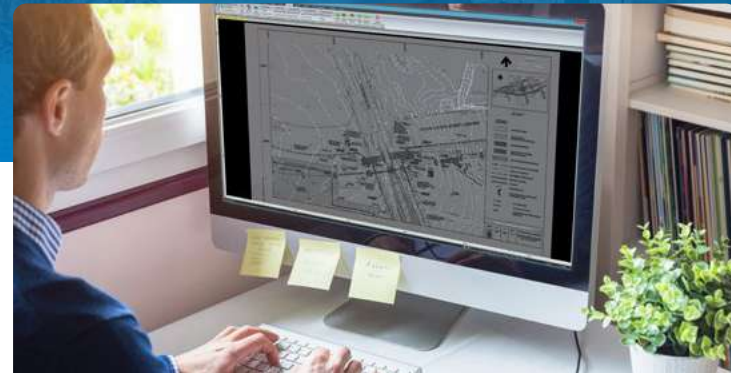
Create alignments for curb and gutter applications, or simply convert and clean up design data so that it's ready for construction. Preparing machine-control files inhouse gives you more flexibility and enables you to be more responsive, keeping your field crew at top efficiency.

# MAGNET Office Survey Feature Highlights



## GNSS post-processing

Post-process GNSS data to efficiently create points, lines and surfaces. MAGNET software provides the most productive workflow for gathering survey, construction, and location data, and for producing highly accurate deliverables.



## Data analysis and topographical map making

MAGNET's CAD functionality helps users prepare survey maps, plats and proposed design plans. Enhance productivity in the office while addressing data-exchange challenges and improving project team alignment.



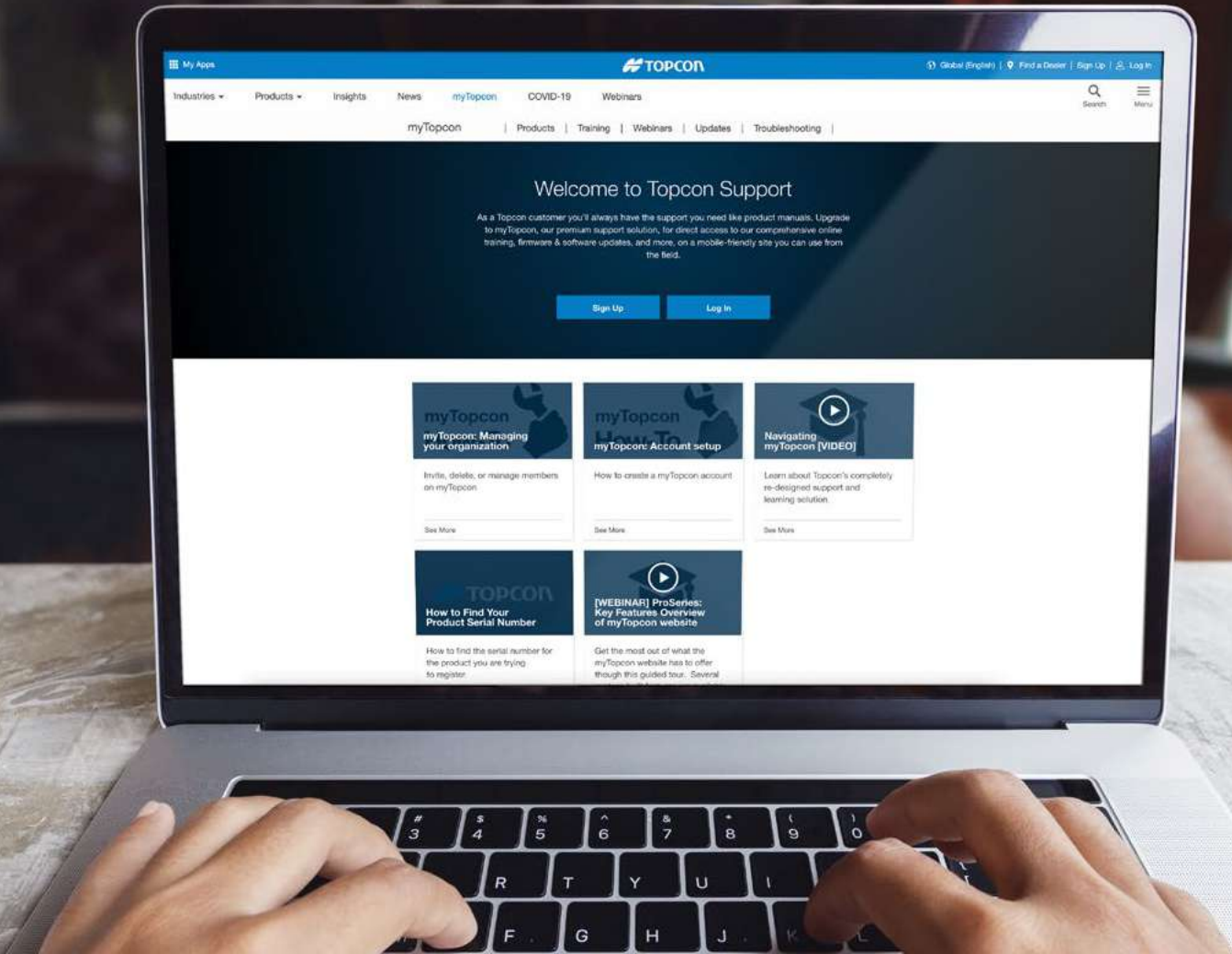
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## MAGNET Collage

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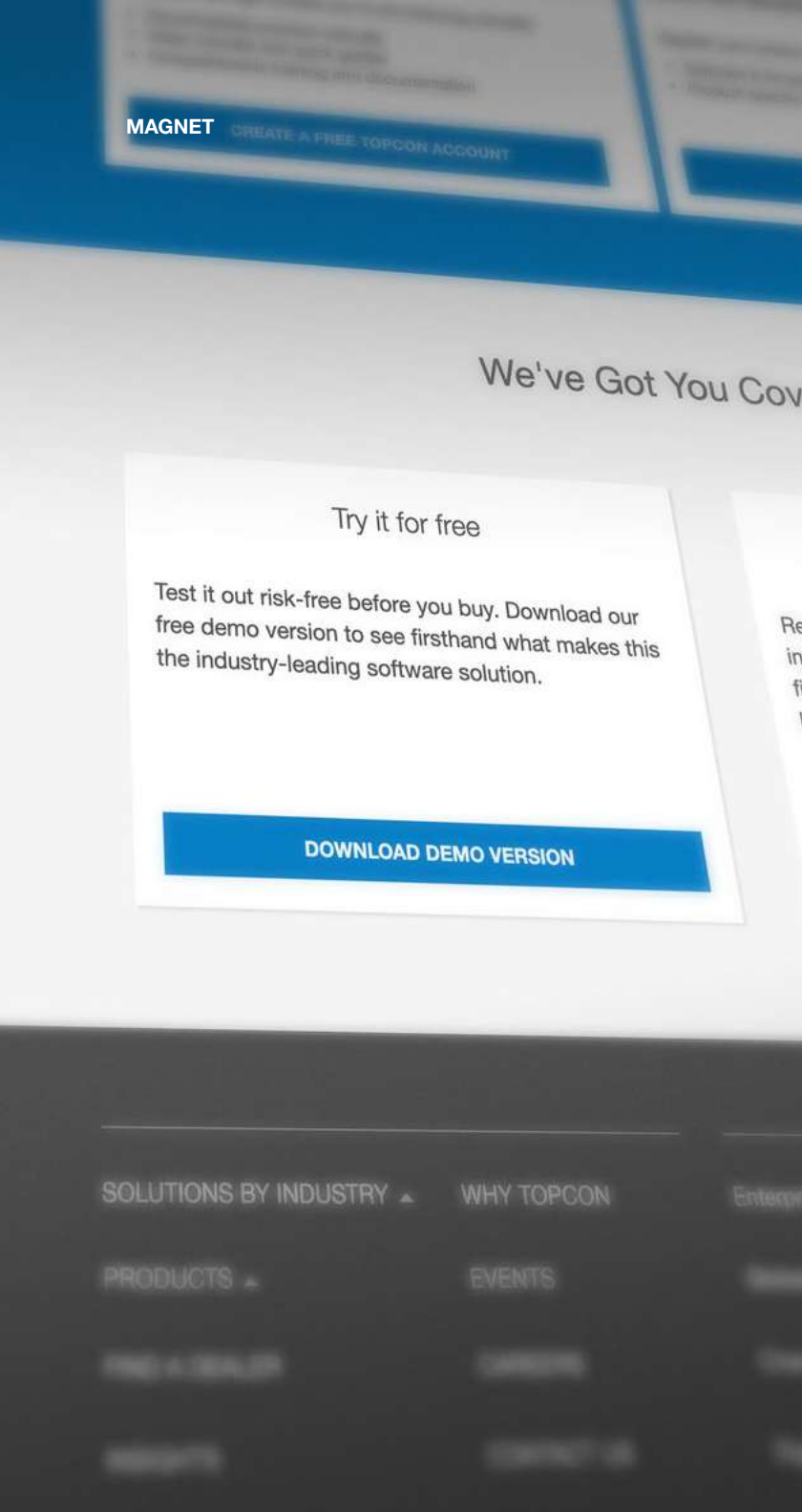
Process, combine and analyze multi-source point cloud data from traditional survey instruments as well as reality capture laser scanners, mobile mapping systems and UAVs. Easily export to industry standard modeling or CAD software or directly publish online with MAGNET Collage Web for improved collaboration among stakeholders.



# Getting Started

Get started by selecting the configuration needed for your project. Whether you “test drive” or purchase, you will benefit from our training content that is designed to maximize your experience and enhance your productivity.





## MAGNET Trials

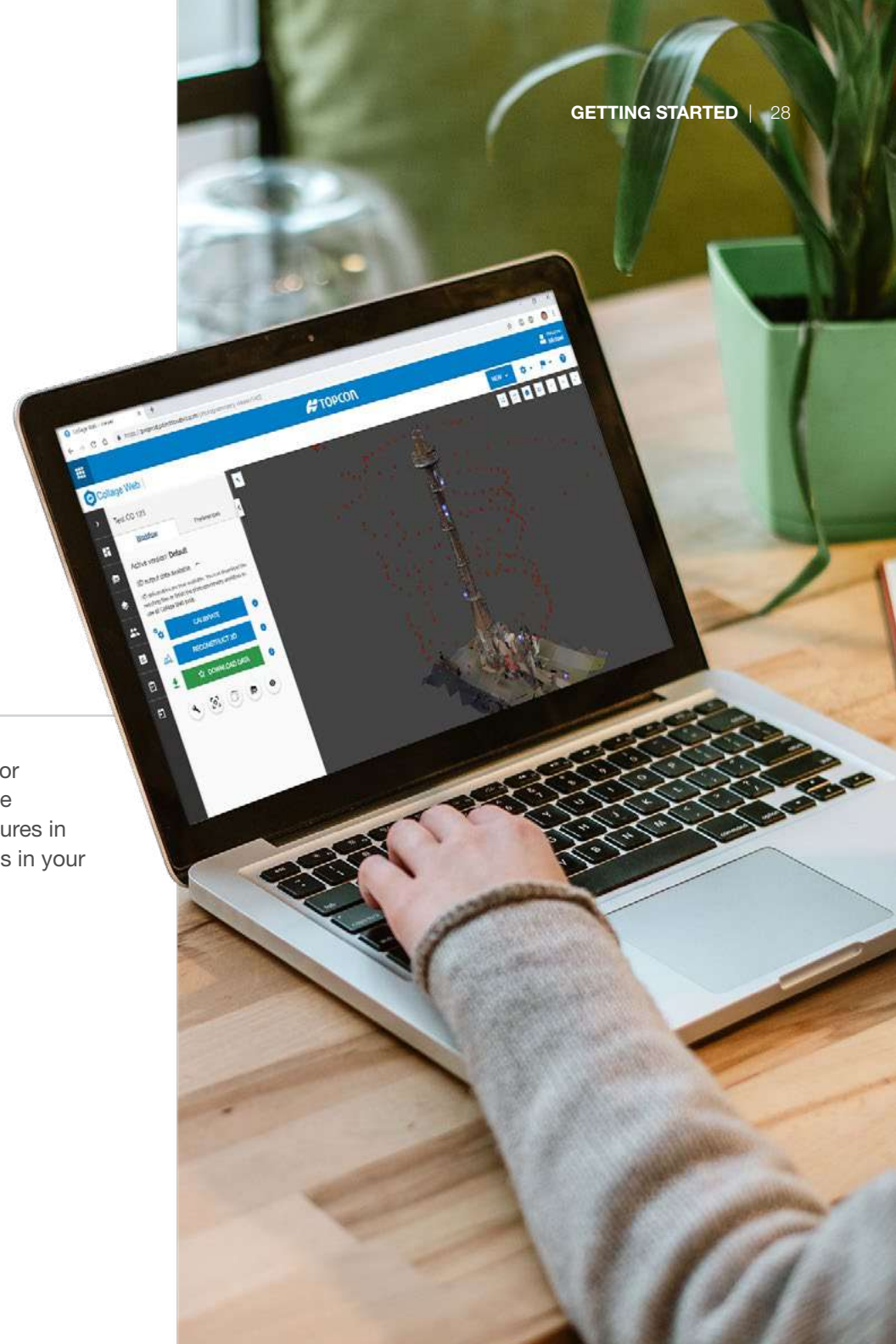
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There are two ways to access trials for Field and Office products to see the benefits up front. You can download the software from [topconpositioning.com](https://topconpositioning.com) and use in demonstration mode to test drive the software. Or, if you would like to try the complete software without limitation, contact a Topcon dealer for a 30-day trial license. Current MAGNET users who want to try out MAGNET Enterprise can find the cloud service directly on the Topcon website within the “My Apps” menu. Fully featured use is included with a subscription or active license service package for MAGNET Field or Office.

## License Options

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MAGNET Field and Magnet Office are available as either a subscription or permanent license. Subscriptions to MAGNET software offer benefits like transparent budgeting with low initial costs and access to the latest features in each software release. To streamline administration and avoid any lapses in your subscriptions, we offer a subscription manager.





# MAGNET Office configurations

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MAGNET Office is one software installation package that includes distinct configuration options.



## 3D Exchange

Machine-control file type conversion



## Layout

Layout file-preparation software



## Tools

Raw survey data adjustments and processing



## Survey

Survey-processing and field-to-finish software



## Site

3D constructible model and survey software



## Construction

Takeoff, 3D constructible-model and survey software



## Project

Earth-moving planning software for project managers



# MAGNET Office configuration selection chart

Customer type	Machine Control	Sitework Layout	Survey	Survey	Earthmoving and Survey	Earthmoving, Paving, and Survey	Earthmoving, Survey, Paving, and Scheduling
Functionality	MAGNET Office Configuration						
	3D Exchange	Layout	Tools	Survey	Site	Construction	Project
MAGNET Enterprise Field-to-Office connectivity	X*	X	X	X	X	X	X
Sitelink3D v1 and v2 connectivity	X*				X*	X*	X*
Processing and adjustments for GNSS, total stations, digital levels			X	X	X	X	X
Machine control data conversion and preparation	X			X	X	X	X
Layout point creation		X		X	X	X	X
Finished survey CAD deliverables				X	X	X	X
Road and site design				X	X	X	X
Corridor design					X	X	X
Machine control modeling					X	X	X
Take off and material quantities						X	X
Paving resurfacing design						X	X
Location-based scheduling							X
Resource and mass haul optimization							X

\*with separate purchase



# MAGNET Field Software Offering

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## Field

Data-collection software

**Operating System:** Windows® 10

**Subscription includes all modules:**

- Robotic total station
- GNSS module (includes mmGPS)
- Roads module
- Piping & trenching module
- Hybrid-positioning module
- Scanning and imaging module



## Construct

Mobile app for control of total stations and GNSS

**Operating Systems:** Android™ and iOS

**Separate subscriptions:**

- MAGNET Construct
- MAGNET Construct with MAGNET Vision app



## Field Layout

Guided layout field software

**Operating System:** Windows® 10

**Subscription includes all modules:**

- Robotic total station layout
- Scanning and imaging module



# MAGNET Enterprise Offering

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## Enterprise

Cloud-based data storage  
connecting field and office teams

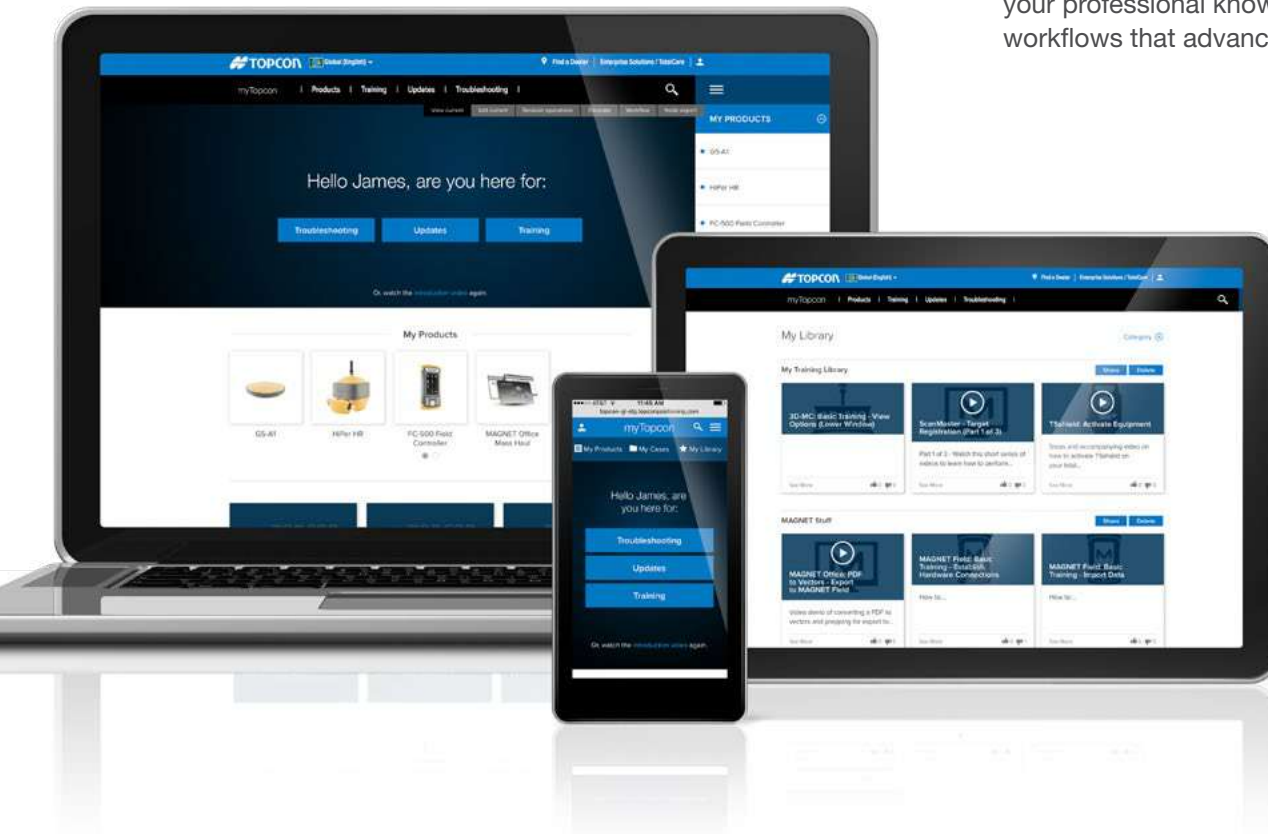
Enterprise is included in any MAGNET subscription. One year of MAGNET Enterprise is also included with a permanent license of MAGNET Field or Office.





# Support

We offer a comprehensive array of support options including direct access to a comprehensive library of myTopcon training and support content in a mobile-friendly format. With single sign-on access you can browse by product for informative quick guides and training videos. View the latest webinar or other E-learning content to advance your professional knowledge and stay on top of the productive digital workflows that advance your business.





[topconpositioning.com](https://www.topconpositioning.com)

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