ENHANCING DESIGN PRODUCTIVITY THROUGH SOFTWARE INTEGRATION

PROFIS Engineering and RAM Structural System Integration

HILTI Bentley®

WORKING TOGETHER TO INCREASE PRODUCTIVITY AND ACCURACY

Hilti and Bentley are working together to increase time savings and design accuracy for structural steel to concrete connection designs. By integrating Bentley's RAM Structural Systems and Hilti's PROFIS Engineering design software programs, structural engineers can more quickly and accurately transfer designs between the two programs.

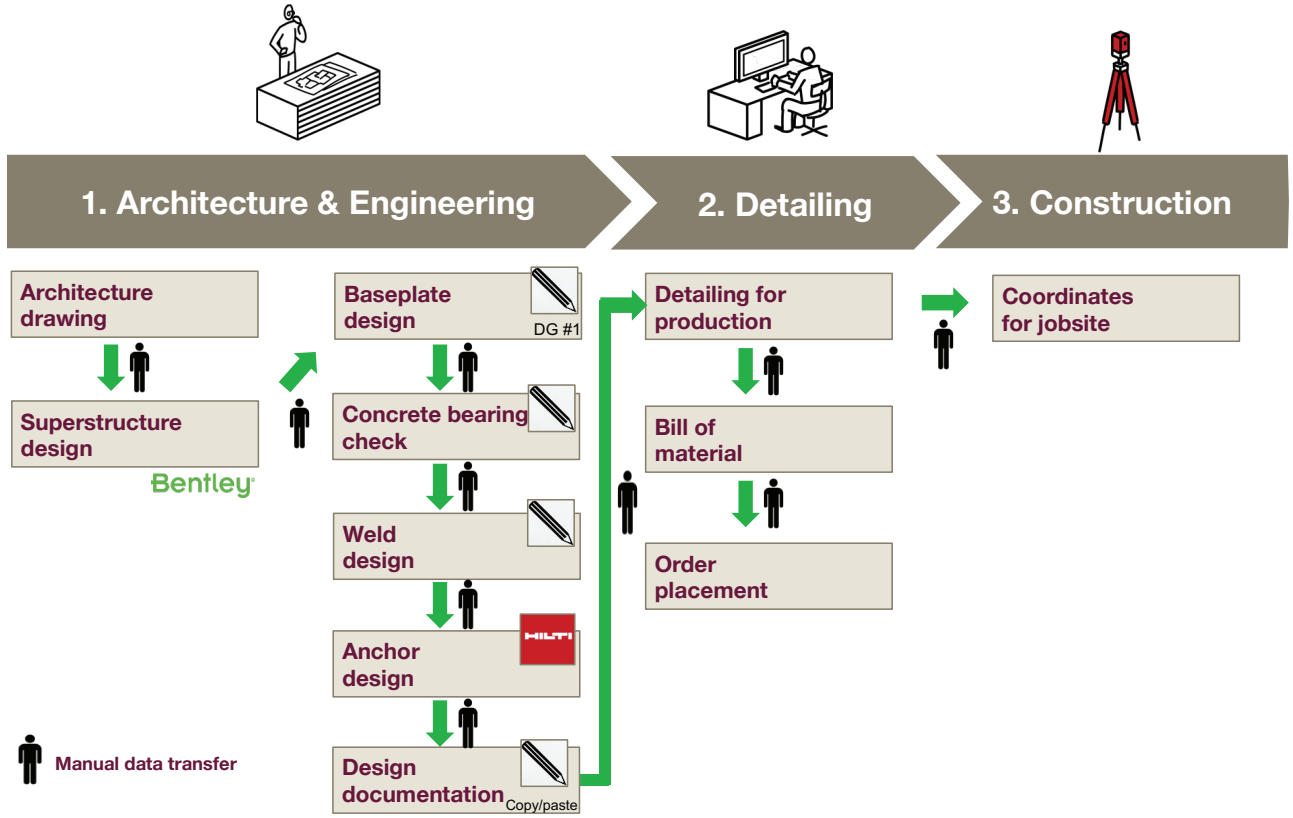
The collaboration between Hilti and Bentley is intended to support structural engineers with a seamless design flow between the two software programs to increase productivity and load transfer accuracy.

The current method of transferring the loads from the superstructure through the connection design to connection design can be tedious and error-prone. First the super structure is designed and loads are compiled to be transferred to the foundation. The foundation is then designed to support the transfer of the loads to the soils. However, the design of the base plate connections which connect the super structure to the foundation are often left until the end of the design process causing a disjointed design flow. When engineers begin the base plate design, they determine the controlling load combinations and begin designing the appropriate base plate size and thickness. Structural engineers complete their base plate design using a variety of methods, but most commonly include cumbersome hand calculations or spreadsheets. Welds are often designed by hand. Finally, the anchors connecting the base plate to the foundation are designed using hand calculations or software. Each step in the design workflow uses a different software program or is done by hand and it is difficult to iterate designs and make changes. The traditional method of design, which is the current workflow of many engineers, leaves the engineer responsible for manually transferring the design data from one media to the next leading to the potential risk of error.

There is an added risk of a change occurring on project resulting in the engineer being responsible for adopting the change in all the components of their design. An engineer may need to find that piece of paper that held the one calculation completed weeks or months ago and start over and will likely need to open multiple software packages and revise the old designs. Finally, once the design is complete, the engineer still must document the change in the construction documents. It can be easy to miss the effect that change has on the design of a different component in the structure.

Thus, through the collaboration, Hilti and Bentley are bringing a solution to this problem.

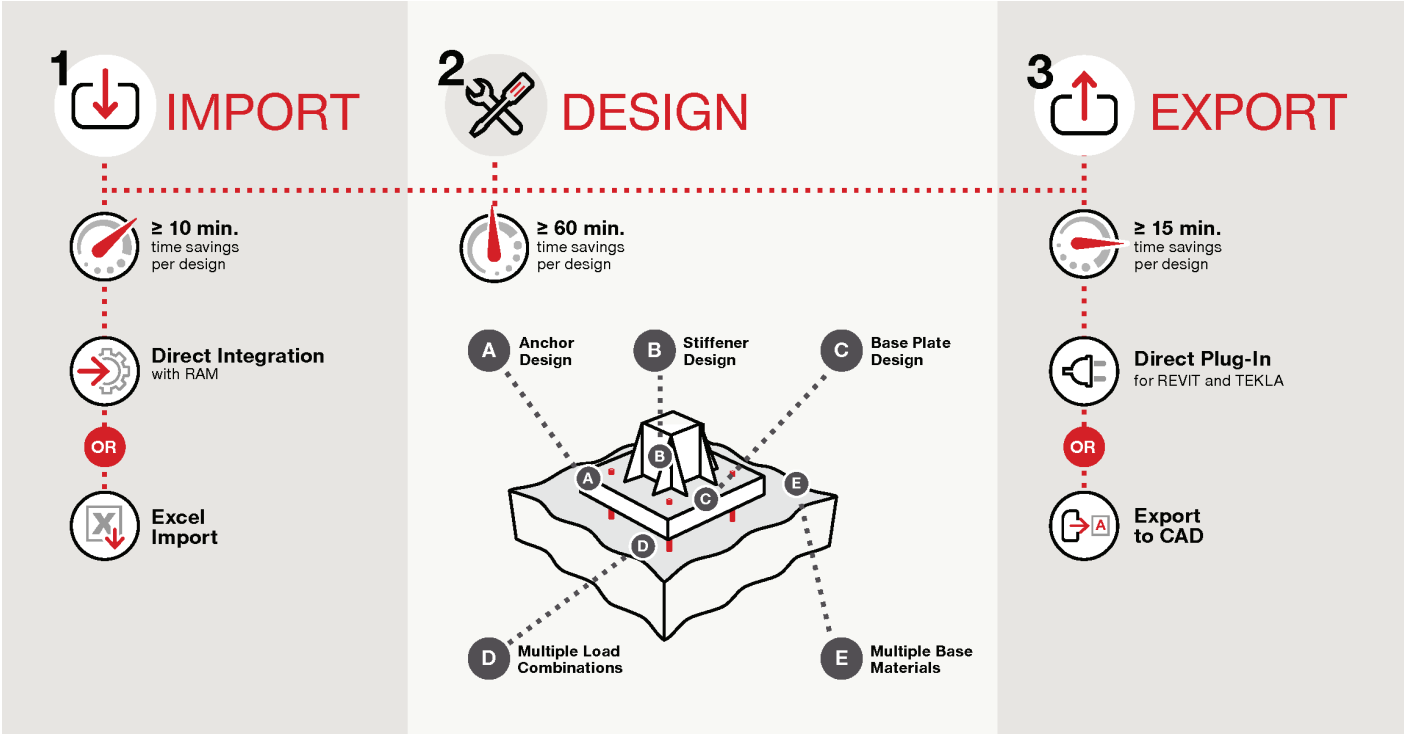
Traditional Workflow



DRIVING INCREASED PRODUCTIVITY AND ACCURACY THROUGH NEW INTEGRATION

With the new integration, PROFIS Engineering can receive all the information needed to complete the baseplate and connection design in a few short clicks, helping reduce or even removing the need for manual data transfer by the engineer. From the foundation module of RAM Structural Systems, structural engineers can now select to send their information directly to PROFIS Engineering. RAM Structural Systems will factor the required loads, transfer the foundation size and material properties, and send the profile, material properties and base plate size to PROFIS Engineering.

PROFIS Engineering design software suite is the leading software package for structural engineers to design anchors and base plates. PROFIS Engineering goes beyond anchor design by bringing advanced base plate design options including Component Based Finite Element Method (CBFEM) and AISC Design Guide 1 calculations, allowing engineers to design the complete fixture quicker and more accurately - including welds and stiffeners. Additionally, engineers can design both post-installed and cast-in anchors in one platform - allowing engineers to design up to 999 load combinations at one time.



SAVES ENGINEERS TIME

Based on feedback from over 1300 structural engineers, the integrative solution provided by Hilti's PROFIS Engineering and Bentley's RAM Structural Systems saves designers over an hour per design by automating the data transfer and allowing engineers to design the entire system (base plate and anchors) in one package. This significantly increases the time productivity for engineers while also reducing the potential for error when transferring designs between the software platforms. Engineers can design cast-in and post-installed anchors in one place. So, when jobsite mistakes happen, a solution can be quickly found.

LEARN MORE

Update to the latest version of RAM Structural System and register for a PROFIS Engineering License to get started today.

More information can be found here:
Hilti PROFIS Engineering

Bentley Ram Structural System

PROFIS Engineering and RAM Structural System Integration

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The data contained in this literature was current as of the date of publication. Updates and changes may be made based on later testing. If verification is needed that the data is still current, please contact the Hilti Technical Support Specialists at 1-800-879-8000. All published load values contained in this literature represent the results of testing by Hilti or test organizations. Local base materials were used. Because of variations in materials, on-site testing is necessary to determine performance at any specific site. Laser beams represented by red lines in this publication. Printed in the United States.

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